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BUSINESS WEEK

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GENEVA: Bulganin and Eisenhower talk of an era of peace. (page 25)

A McGRAW HILL PUBLICATION

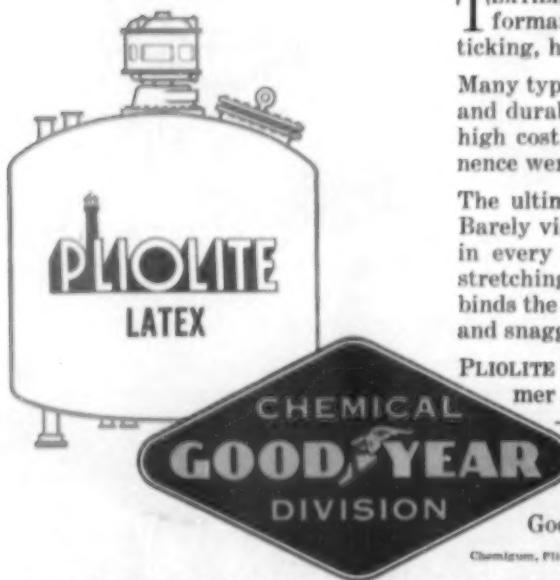
JULY 30, 1955

E. B. POWELL
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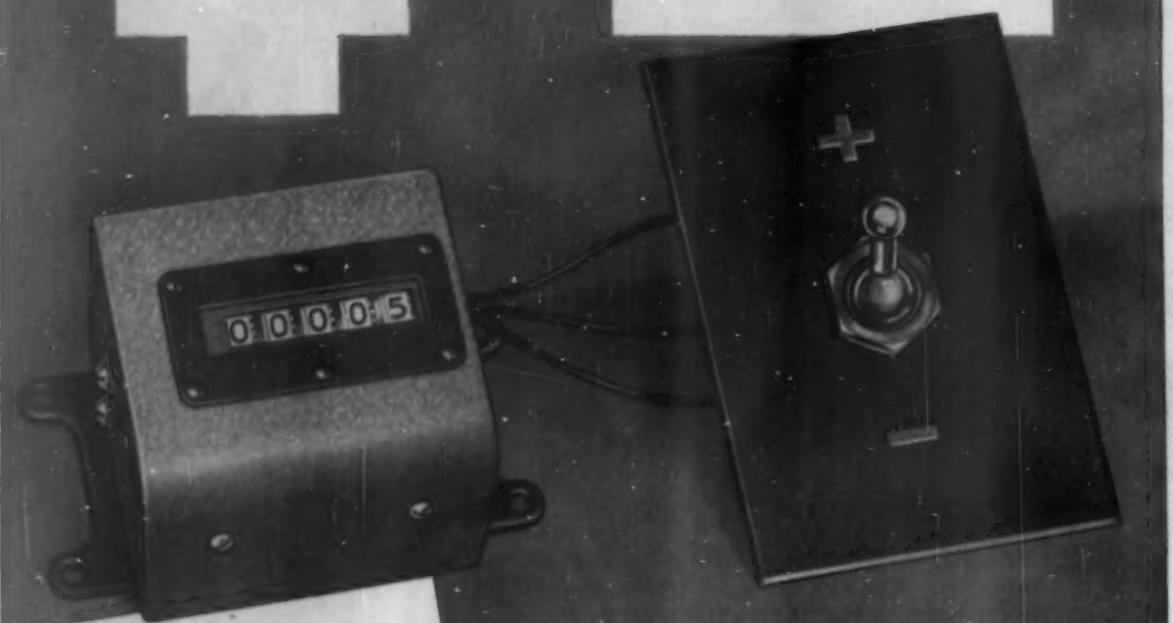
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BUSINESS WEEK • JULY 30 • NUMBER 1332

(with which are combined The Annalist and the Magazine of Business) Published weekly by McGraw-Hill Publishing Company, Inc. Executive, Editorial, Advertising, and Subscription Offices: McGraw-Hill Building, 330 West 42nd Street, N. Y. 36, N. Y. Publication Office, 99-129 North Broadway, Albany 1, N. Y.; entered as second class matter Dec. 4, 1936 at the Post Office at Albany, N. Y., under act of Mar. 3, 1879. Donald G. McGraw, President; Paul Montgomery, Executive Vice President; Joseph A. Gerard, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising; J. E. Blackburn, Jr., Vice President and Circulation Director. FOR SUBSCRIPTIONS, write to: Business Week, Subscription Service, 330 West 42nd Street, New York 36, N. Y. Subscriptions to Business Week are solicited only from management men in business and industry. Position and company connection must be indicated on subscription orders. Subscription rates: United States and possessions \$6 a year; \$3.2 for three years. Canada \$7 a year; \$14 for three years. Other Western Hemisphere countries and the Philippines, \$20 a year; \$40 for three years. All other countries \$25 a year; \$50 for three years. Single copies, 25c. Printed in U.S.A. Copyright 1955 by McGraw-Hill Publishing Co., Inc. All rights reserved.

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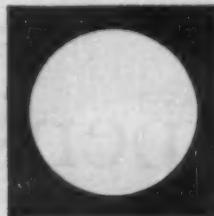
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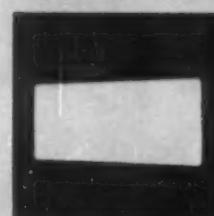
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7248

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When any employee or a member of his family is a victim of a really serious medical setback—it can be a terrible blow to him financially, physically and mentally. For when costs skyrocket beyond the benefits payable under basic medical plans, he may find that his savings, his security, his ability to do a job well—have suffered serious damage.



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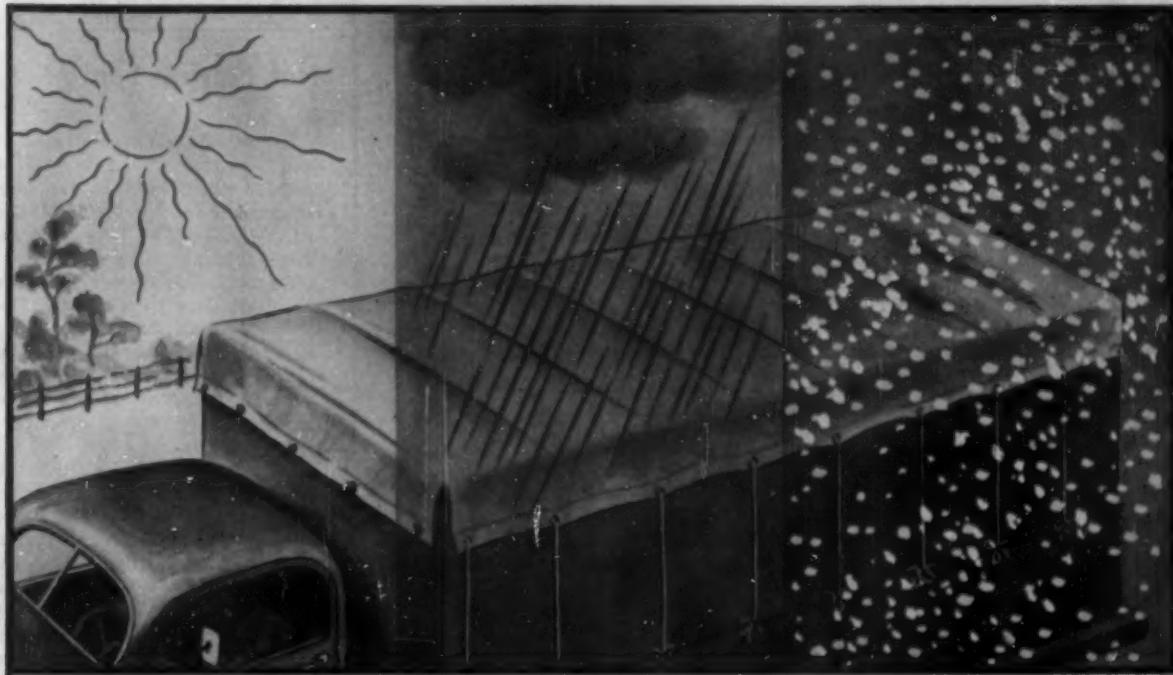
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READERS REPORT

Not Playing Santa

Dear Sir:

As one who has been a reader of your magazine for a number of years, I would like to offer some criticisms of the article "The Wheat Belt Has Its Say on Controls" [BW—Jul. 2 '55, p29]. . .

We object strongly first, to the use of the term "Santa Claus," and the implication that agriculture is the recipient of special gifts from the rest of the country. Secondly, we must object to the statement that it costs \$1.00 to produce a bushel of wheat.

The statement in your article that the result of the national referendum looks like a straight pocket-book vote is probably as correct an analysis as can be made. The major decisions concerning the economic well-being of all industries at present is based on this same fact. The choice given the wheat farmer in the recent vote was not a very bright one had he voted "yes" or "no." The farmer would like to receive "parity" for his products, which is a measure of fair relationship between what the farmer sells and what he must buy in turn. The fact remains that over-all commodity price index has remained fairly steady for the past year. The farm-costs index also remains about the same as a year ago, but the parity ratio, however, equals a 15-year low of 86, which is down from last month and off from a year ago.

From the standpoint of size of business, agriculture is the least subsidized of any business in the United States. Very little is said about the costs, hidden or otherwise, that go into practically every segment of American industry and which come out of the public purse. National magazines too often carry articles which indicate the farmer makes a soft living at the expense of the general taxpayer. We realize that a short article such as yours cannot give the entire picture. Frequently the implications are such that an entirely wrong impression is left with the reader.

Now, about the statement that wheat can be produced at \$1.00 per bushel. It is true that costs range from \$30.00 to \$35.00 per acre. This covers only the actual out-of-pocket costs of oil, gas, and operating expenses. It does not take into consideration the interest on investment, nor does it pay



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The Scrubber-Vac shown above is Finnell's 213P, for heavy duty scrubbing of large-area floors. It has a 26-inch brush spread, and is capable of cleaning up to 8,750 sq. ft. per hour! Finnell makes sizes for small, vast, and intermediate operations (available on lease or purchase plan) . . . also a full line of fast-acting cleansers. In fact, *Finnell makes everything for floor care!*

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the farmer for his labor and management costs. With the present cost of equipment and machinery, the farmer has about the highest investment cost of any industry per unit of production.

MARX KOEHNKE

EXECUTIVE SECRETARY
NEBRASKA WHEAT GROWERS ASSN.
ALLIANCE, NEBR.

Dear Sir:

I got a charge from "The Wheat Belt Has Its Say on Controls." . . . It is a propaganda piece and not a specimen of reporting. . .

I don't want to see consumers gouged to buy food, but that time will come if our citizenry continues to run the farmer down to a hand to mouth existence. Our citizens should be on their knees thanking God for an abundance of food at prices that can be easily paid. 100% of parity is not a high price to farmers—it is a fair price. . .

I hope your statement that it costs a dollar a bushel to raise wheat is a misprint. If it isn't a misprint, pick up a farm survey sheet, hand it to your reporter, give him a good calculator, assign him three statisticians and see if he can raise wheat for one dollar a bushel.

HAROLD A. BLUME
GLENBURN, N. DAK.

* The term "Santa Claus" was not supposed to give the impression that payments to farmers are hand-outs. Nor did BW intend to put the farmer in the position of a "poor relation," but tried instead to give an economic picture of what is happening to him.

The figure of \$1 to produce a bushel of wheat came to us from a reporter in the wheat belt. He specified Cheyenne County, Neb., in his report on the cost and the return to the farmer. Again, it may be a matter of what is included in costs.

A Disarming Note

Dear Sir:

The American people generally have come to believe that Western proposals for disarmament inspection and control are "foolproof" and that the Soviet Union would not accept them in the foreseeable future.

In the light of recently published reports of Soviet proposals and other documents before the United Nations Disarmament Sub-Committee both these assumptions require re-examination.

"Gentlemen, we're running this business like a popcorn stand!"



When a popcorn vendor takes inventory, he checks the salt and butter and makes a rough guess at how much corn's in the popper. Guesswork likewise establishes the work-in-process figure in many a company's monthly statement.

Hence this board chairman's uneasiness. He has only an *estimate* on the value of goods going through the shop. He doesn't know how much has been *actually invested* in them — collectively or by type of product. Under existing procedures, he can't find out for weeks, till a detailed physical inventory is taken.

As it happened, one of the directors knew about Keysort punched-card accounting. He gave us a plug.

Next day, the McBee man showed the chairman how Keysort could give him exactly what he wanted, and *on time*, too — by the 4th of each month. Result: no more "guesstimates" in this company's statements.

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It now appears that the U.S.S.R. and the major Western powers have considerably narrowed their differences. Disagreement remains as to disarmament control, but the differences are more of degree than of kind.

Further, it is possible that the Soviet Union at the Geneva Conference may seek to trade its agreement to the Western inspection system for political concessions on issues it has raised.

Convinced of persistent Soviet intransigence, Americans have had little incentive to examine the effectiveness of our disarmament proposals.

United World Federalists has consistently maintained that "fool-proof" disarmament requires more fundamental steps. First, disarmament must deprive nations of all significant weapons, leaving to the nations only such police units as will be necessary for maintaining internal order. Second, the United Nations must recruit, train and command its own inspection, police and armed forces. . . . Third, armament controls must be applicable to individuals as well as nations, so that violators can be apprehended, tried and punished. Fourth, the General Assembly must bear responsibility for enforcement of disarmament, and no nation can have a veto over the implementation of disarmament. Fifth, more adequate means for the peaceful settlement of disputes must be available under just world law. Finally, no nation can afford to accept any system that cannot enforce compliance.

C. M. STANLEY

PRESIDENT
UNITED WORLD FEDERALISTS, INC.
NEW YORK, N.Y.

Supporters of Dow

Dear Sir:

In your article about GM's employee stock purchase plan, BUSINESS WEEK [Jul. 16 '55, p30], you state, "Not all plans have had unqualified success. Participation in Dow Chemical's plan got up to 45 per cent of eligible employees, and in 1952 employees oversubscribed the 45,000 shares offered. But in the fall of 1953 Dow postponed the offering to employees. The reason—the market slid and workers lost interest."

As a Dow employee who has considered it a privilege to participate in each of the company's stock plans since 1948, I question the validity of the latter statement.

It may well be that a period of

The building you're sitting in ...

How much of it moved over the Western Maryland?

Carloads... trainloads... of building materials, travel the Western Maryland "short cut." Many of them start their travels from Western Maryland territory.

Often a Western Maryland waybill reads like a contractor's bill of materials: structural steel, iron and steel pipe, steel reinforcing rods, cement, brick and tile, building paper, wallboard, insulation, plaster, plate glass.

Take cement, for example. Western Maryland carries thousands of carloads yearly—most of it made "on line." You recognize the brands—Lehigh, Medusa, North American.

If you are interested in building buildings, you appreciate the promptness of Western Maryland deliveries. And your expeditors appreciate the Western Maryland's hour-after-hour reporting service.

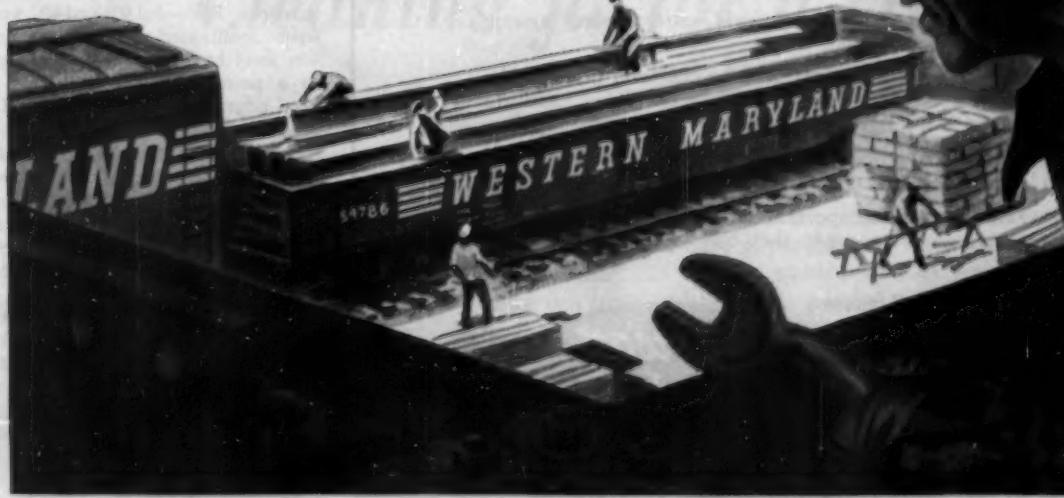
If you are interested in building a business, there are scores of sites close to abundant supplies of raw, and semi-manufactured, materials in the region served by the Western Maryland. They are awaiting utilization by men of energy and vision. We'd like to tell you about them.

Better, we'd like to show them to you. Write or phone us.

WESTERN MARYLAND RAILWAY

St. Paul Place, Baltimore 2, Md.

Short Cut for Fast Freight





What's so "Special" about this "Standard"?

This is an ordinary stove bolt - A "Standard" fastener in the jargon of the bolt and nut industry.

But there's something "special" about it, too. That something "special" has to do with the many extra values Lamson & Sessions offers its customers over and above high product quality.

For instance, behind every Lamson fastener are research facilities and engineering talent unexcelled in the industry.

There's a practical, workable "Statistical Quality Control" system upon which you can depend.

There's an awareness on our part that the customer deserves the best in efficient service . . . minus costly mistakes in fulfilling specifications or shipping.

Finally, there's that feeling of confidence our customers enjoy, based on Lamson's 88-year reputation for fair and honest dealing.

These are just a few of the "specials" Lamson & Sessions delivers to its customers . . . even when they buy "Standards".

The home of "quality controlled" fasteners



The LAMSON & SESSIONS Co. • General Offices: 1971 W. 85th Street, Cleveland 2, Ohio
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

a sluggish or bearish market is not a good time for a company to make any kind of a stock offering, but it seems presumptuous to state that the employees lost interest. Since no offering was made it is hardly possible at this point to say whether interest would have been high or low.

I am chiefly concerned, however, because your statement leaves the impression that Dow has given up the program as disappointing. On the contrary, Dow management has publicly and repeatedly expressed satisfaction with the interest shown. Further, you completely ignored the fact that the company subsequently offered its sixth employee stock purchase plan in the fall of 1954, which I understand was subscribed by almost 40 per cent of the eligible employees.

I don't know how successful you have to be to be a success, but from what I read and hear of stock plans generally, I have the impression that percentages in this range are regarded as very good, particularly when an offering is not limited to an executive or salaried group but is open to virtually all employees . . .

You did a nice cover story on the Dow stock purchase plan in BUSINESS WEEK several years ago.

W. R. CAPLE
THE DOW CHEMICAL CO.
MIDLAND, MICH.

• BW apparently was not up to date on its information about Dow's plan. We're glad to know it is a continuing success.

The Sharpest Edge

Dear Sir:

Under your heading of Personal Business [BW—Jul. 9 '55, p140] you have mentioned, "Forged stainless steel has now been developed to a point where it will keep a keen edge as well as carbon steel." May we disagree that "forged stainless is not the same thing as stamped." Stamped stainless steel when made with high carbon content, according to the best metal talent in the world, is the finest edge retaining steel that can be made.

We also disagree that "all knives should be kept out of the dishwasher." Good knives are made with wood impregnated with resin and can be put in the dishwasher.

ALBERT M. BAER
IMPERIAL KNIFE ASSOCIATED
COS., INC.
PROVIDENCE, R. I.



Cleaning fit for a Queen . . .

Beauty contest winner or captain of the kitchen, America's budget-conscious "queens" owe a vote of thanks to modern drycleaners, who keep a fresh-as-new sparkle on their pretty dresses.

There's a touch of Atlas in this picture. Drycleaners use Darco® activated carbon regularly to keep their cleaning solvent "clean" . . . to help make sure that your clothes always come out fresh and bright.

Darco purifies scores of other products, from sugar to sulfa drugs. It's one of a family of Atlas chemicals that put extra value in the things you buy for your business or your home. If you use activated carbon, emulsifiers or moisture conditioners, we have some ideas and products that can help you. Atlas Powder Company, Wilmington 99, Delaware.

**ATLAS**
POWDER COMPANY
SORBITOL, POLYESTER RESINS
EMULSIFIERS, DETERGENTS
EXPLOSIVES, ACTIVATED CARBONS

A word about the Steel Situation

You may be wondering what new supply problems you will have because of the recent set-back in steel production. Strike-loss estimates run to nearly a million tons—and even before the strike, spot shortages had already been created by high demand.

In this emergency period, as always, Ryerson stocks undoubtedly can help you. Thousands of tons of certified quality steels are on hand at your nearby Ryerson plant—carbon steels, alloys, and stainless—and our stocks are being built up daily. In the few cases where the exact kind or size you need is not available locally we will check stocks at our 15 other plants for you.

Remember too that when you order from Ryerson you not only have the

world's largest reservoir of steel stocks to draw on, but also the advantage of our long experience, unequalled facilities, and complete dedication to quality of product and service.

So for help on emergency or regular requirements—call your nearby Ryerson plant today.

PRINCIPAL PRODUCTS IN STOCK

BARS, CARBON STEEL—Hot rolled and cold finished—rounds, squares, hexagons, etc.

STRUCTURALS—Channels, angles, beams, etc.

PLATES—Welding and forming quality, abrasion resisting, E-Z-Cut, flange quality, safety plate, etc.

SHEETS & STRIP—Hot and cold rolled, many types and sizes, cut to exact sizes.

TUBING—Seamless and welded mechanical and boiler tubes, hydraulic tubing, etc.

ALLOY STEEL—All types including leaded alloys.

STAINLESS—Allegheny metal bars, plates, sheets, pipe, tubing, fittings, etc.

BUILDING PRODUCTS—Reinforcing bars, spirals, bar joists, wire mesh, etc.

MACHINERY & TOOLS—For metal fabrication.



RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CHARLOTTE, N. C. • CINCINNATI • CLEVELAND
DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

BUSINESS OUTLOOK

BUSINESS WEEK

JULY 30, 1955



Here's the reason you're beginning to hear so much about credit:

- The nation's output, rising for 12 months, has increased by about \$26-billion from its 1954 low. That's obviously good.
- People have borrowed the money to pay for fully half that increased outpouring of goods and services. This isn't quite so good; it might, conceivably, turn out disastrously, though that isn't likely.

Borrowing to buy is an old American custom—almost an American invention, if Moscow will excuse such a claim. And it doubtless helps in no small measure to account for our standard of living.

But it also helped produce the real estate crash of the thirties.

Going into debt has the practical effect of creating new money.

A loan to one man becomes another's bank deposit as soon as there is a sale made. This pumps up the money supply, which, to the purists, is inflation just as surely as running the printing presses.

The man in the street doesn't see it as inflation until, under certain circumstances, the growing money supply boils up in rising prices.

Such a price rise has not, as yet, resulted from mounting debt.

It's the inflation potential that has banking authorities increasingly on the edge of their seats.

You see that in their latest moves to restrain the rise in consumer credit (page 32). You detect it, too, in their published statements (which are notably cautious though shunning any note of alarm).

Some action is in the cards (page 37)—but nothing really stringent. The reason is obvious: Nobody wants to risk even crimping the boom, much less choking it.

Washington most certainly won't follow London's curb on installment credit and the directive to curtail business loans (page 99).

Quite aside from the fact that Britain has its election behind it while ours is still ahead, the symptoms here demand no such treatment.

—•—
Looking at the growth of individual debt in this country, home mortgages might at first glance seem more dangerous than consumer credit.

Mortgage debt of individuals has gone up nearly \$10-billion in a year, consumer borrowings by something over \$3-billion.

But mortgage payments stretch over 20 to 35 years. Installment purchases have to be paid off in 1½ to 3 years in most cases.

Installments thus actually are putting the greater strain on monthly pay checks of the people who are the habitual borrowers.

Repayments on personal debt "will continue to absorb a growing share of personal income," says the Federal Reserve Bank of Cleveland.

The bank notes, however, that "the share of income that is absorbed in repaying such debt has not risen so fast as the ratio of outstanding debt

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK
JULY 30, 1955

to income. The explanation lies largely in the stretching out of maturities on home mortgage debt."

The Cleveland reserve bank finds repayments on consumer installment debt taking nearly 17% of personal income after taxes; the charge for meeting payments on home mortgages is only 5%.

But note that the two together amount to a 22% lien on income.

Official policy has been, as everyone knows, to keep the banks on short tether, feeding credit out only as needed. It's rather like a fisherman with a big one on the hook—keeping a taut line by playing in and out rather than hauling away and running the risk of losing him.

The Federal Reserve Board formally recognizes but doesn't publicly deplore the sharp rise that is taking place in bank credit.

Reviewing credit and money in 1955 in the July issue of its bulletin, the board points out that the \$4-billion rise in all types of bank borrowings in the last six months is the biggest ever for this period.

Business has come from recovery to boom over the last 12 months without going to the banks for as much money as you might suppose.

Partly that's due to more cash retained out of rising earnings (and earnings present a pretty picture, page 30). And partly it's due to raising more permanent capital.

In any event, bank loans to business are up hardly \$2-billion.

This has combined, nevertheless, with other demand to raise the cost of borrowing (whether it's from banks or by sale of bonds).

You get an incongruous price picture looking back at the past 12 months—and it may mislead you on what lies ahead.

In a year of rising incomes, rising borrowings, and higher consumer spending, the cost of living has declined.

Consumers have been getting their best price breaks on food and home furnishings, down about 2% in the last year (despite last month's turnaround). And even on the one big cost-of-living item where prices still are rising—rents—the rate of advance has tapered quite substantially.

Declining living costs in a year of rising business activity might lead you to think that productivity is outstripping the money supply.

This can't be flatly ruled out, but it seems quite doubtful.

Lower food prices seem to stem directly from overwhelming farm surpluses, lower home furnishings, from cutthroat competition.

And as for the money supply—bank deposits plus currency in circulation have risen by about 5% in the last year to approach \$210-billion.

Seeds of inflation, however mild, doubtless still are lurking in money incomes, money resources, and borrowings of individuals.

Costs of many things manufacturers use have risen and are pointing still higher. Their wage bills narrow the spread between costs and prices. And they'll be passing some rising costs on to consumers.

*"That's what we need - a drum
that sells like a poster!"**



IF YOU'RE using steel drums, take a good look at them.

Do they *sell* for you? Do they *promote* your product as well as they protect it? Are they half as eye-catching as these Rheemcote Poster Drums used by Hillyard Chemical?

For a few pennies per drum, Rheem can turn your shipping containers into traveling bill-

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For details, call our nearest office. Or write to Rheem Manufacturing Company, 477 Madison Avenue, New York 22.

**He's just spotted another*

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WORLD'S LARGEST MANUFACTURER
OF STEEL SHIPPING CONTAINERS



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NEW DEPARTURES OF TOMORROW



TOMORROW: Pick your favorite foods! Then this imaginary SUPER CHEF assembles your choice from a vast freezer storage, cooks it to perfection by infra-red ray and serves it by conveyor in a matter of seconds!

Set the table . . . then set the dial! Future meals could be as easy as that with this miracle meal-getter. And, maybe tomorrow it will be a reality.

When it is, New Departure will play an important part, just as it does in so many of today's work-savers. For example, you'll find New Departure ball bearings in almost every major appliance . . . and for good reason. They keep moving parts functioning smoothly, while requiring virtually no maintenance. They support loads from any direction . . . keep parts always in perfect alignment.

If you're dreaming up tomorrow's time-saver, or improving your present product, call on New Departure for the most dependable ball bearings in the world.

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT



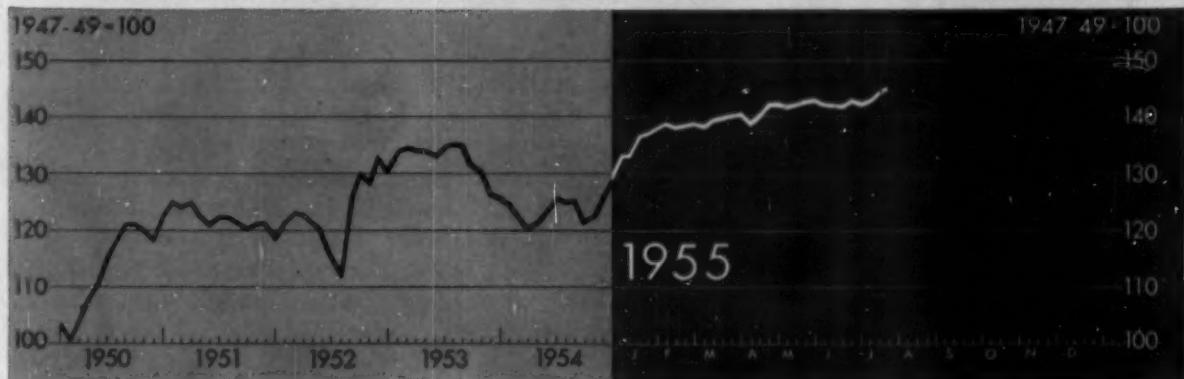
TODAY: The operation of many of today's conveniences relies on New Departures. Specially designed, low-cost New Departure ball bearings in the hinges of this heavy refrigerator door make it swing open at the lightest touch.

NEW DEPARTURE
BALL BEARINGS



NOTHING ROLLS LIKE A BALL

FIGURES OF THE WEEK



Business Week Index (above)

	Latest Week	Preceding Week	Month Ago	Year Ago	1946 Average
	*145.2	†145.0	143.5	126.2	91.6

PRODUCTION

Steel ingot production (thousands of tons).....	2,284	†2,195	1,716	1,532	1,281
Production of automobiles and trucks.....	210,740	†207,627	191,890	130,744	62,860
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands).....	\$73,224	\$76,395	†\$64,892	\$54,396	\$17,083
Electric power output (millions of kilowatt-hours).....	10,620	10,440	10,226	9,103	4,238
Crude oil and condensate production (daily av., thousands of bbls).....	6,650	6,626	6,637	6,268	4,751
Bituminous coal production (daily average, thousands of tons).....	1,622	†1,478	1,607	1,201	1,745
Paperboard production (tons).....	264,622	225,674	280,600	239,499	167,269

TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars).....	73	73	74	65	82
Carloadings: raw materials (daily av., thousands of cars).....	60	58	56	51	53
Department store sales (change from same week of preceding year).....	+10%	+13%	+2%	+5%	+30%
Business failures (Dun & Bradstreet, number).....	172	224	205	188	22

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	404.2	403.8	406.6	428.0	311.9
Industrial raw materials, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	96.4	95.8	93.2	86.3	†173.2
Foodstuffs, daily index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	82.2	84.2	86.6	98.4	†175.4
Print cloth (spot and nearby, yd.).....	19.0¢	19.0¢	19.0¢	19.0¢	17.5¢
Finished steel, index (U. S. Dept. of Labor BLS, 1947-49 = 100).....	153.9	†153.8	144.9	144.6	†176.4
Scrap steel composite (Iron Age, ton).....	\$41.50	\$40.33	\$36.50	\$27.33	\$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.).....	36.000¢	36.000¢	36.000¢	30.000¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.16	\$2.18	\$2.16	\$2.37	\$1.97
Cotton, daily price (middling, ten designated markets, lb.).....	33.60¢	33.65¢	34.01¢	34.54¢	30.56¢
Wool tops (Boston, lb.).....	\$1.85	\$1.85	\$1.85	\$2.25	\$1.51

FINANCE

90 stocks, price index (Standard & Poor's).....	343.8	335.6	324.4	241.5	135.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.53%	3.52%	3.51%	3.50%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	2½-2½%	2-2½%	2%	1½%	1-1%

BANKING (in millions of dollars)

Demand deposits adjusted, reporting member banks.....	55,866	56,113	57,127	54,481	†145,820
Total loans and investments, reporting member banks.....	85,169	84,013	84,449	80,585	†171,916
Commercial and agricultural loans, reporting member banks.....	23,402	23,465	23,433	21,558	†19,299
U. S. gov't guaranteed obligations held, reporting member banks.....	32,565	31,663	32,303	34,018	†19,879
Total federal reserve credit outstanding.....	25,432	25,571	25,055	25,673	23,883

MONTHLY FIGURES OF THE WEEK

	Latest Month	Preceding Month	Year Ago	1946 Average
Cost of Living (U. S. Dept. of Labor BLS, 1947-49 = 100).....	June.....	114.4	114.2	115.1

* Preliminary, week ended July 23, 1955.

†† Estimate.

‡ Date for "Latest Week" on each series on request.

§ Revised.

in BUSINESS this WEEK . . .

GENERAL BUSINESS:

GENEVA: FIRST STEP TO SURVIVAL. Many more fruitful steps are needed for a settlement, but the Kremlin is already turning its back on renewal of the cold war (cover) p. 25

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RESULTS WERE INCONCLUSIVE. In the wake of Geneva parley, the lines of reaction are blurred between war and peace stocks p. 112

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TIMBER INDUSTRY SPROUTS NEW SHOOTS. Shrinking resources, rising costs are forcing lumbermen to find a use for every splinter of the tree p. 102

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RACING THE FRLIGHT CAR SHORTAGE. New car orders are piling up, but the squeeze on shippers is getting tighter p. 124

UNEVEN SHORTAGE. Aircraft companies are being pinched by lack of engineers, but many industries are unhampered by shortages p. 126

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TIMING NEW EQUIPMENT FOR HIGHEST PROFIT. MAPI gets capital goods makers together to help sharpen up its machinery replacement formula p. 84

NEW LOOK AT MACHINERY'S HEALTH. McGraw-Hill's new index gives a fresh view of the industry—and shows that it's blooming p. 88

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FITTING COMPUTERS INTO A BUSINESS. Use of electronic calculators calls for changes in the way a company is run p. 40

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FINANCE:

TRUSTS EYE DWINDLING YIELDS. They're puzzled by effect of high stock prices. But there is no general movement from common stocks to bonds p. 56

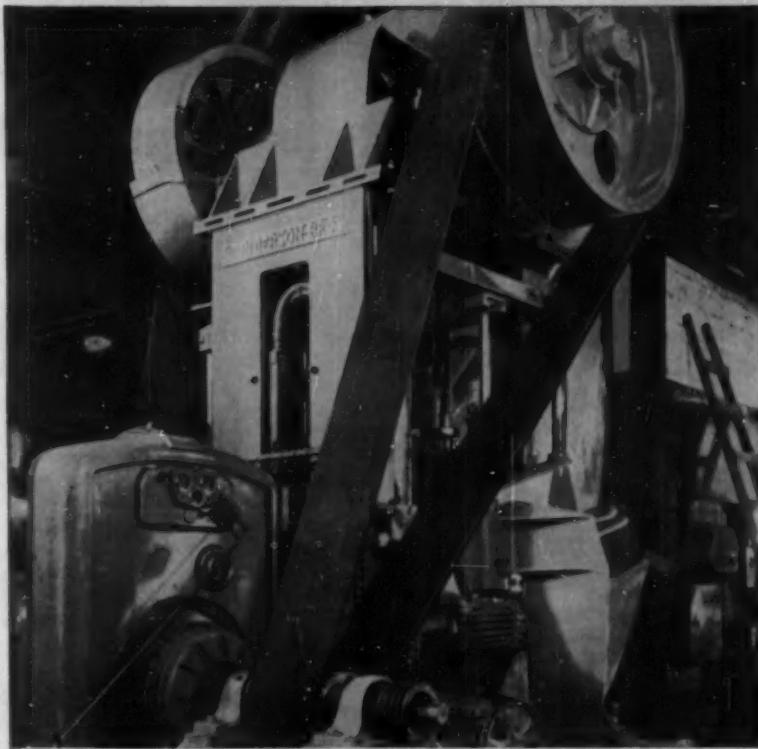
GOVERNMENT:

IN WASHINGTON. News about FHA troubles, military construction, um-

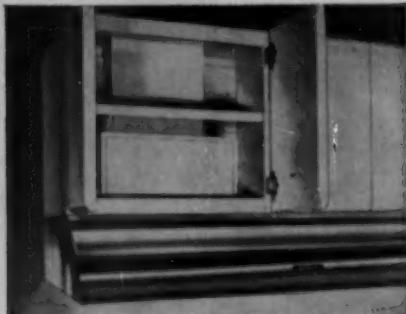
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INFORMATION: NOW IT'S THE REALM OF THEORISTS. They're trying to get most use from man's communications channels p. 58

LOOK WHAT RUBBER PRODUCTS MADE WITH NEOPRENE ARE DOING



MULTIRIBBED TRANSMISSION BELT of neoprene combines advantages of V belts and flat-drive belts—and eliminates the disadvantages. This new V-ribbed flat belt increases drive capacity, wears longer, costs less to maintain. Like all neoprene belts, it resists abrasion, heat, oil, flex cracking . . . withstands rough service without chipping, cracking.



RESILIENT NEOPRENE COUPLING in duct-work of kitchen ventilating unit minimizes noise and vibration. Neoprene's resistance to oil and heat assures long life and efficient service.



NEOPRENE SPONGE MATS in striking new colors and designs brighten any household. Feather-soft support for feet, plus resistance to deterioration and wear, is provided by neoprene sponge.

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A flat drive belt with V ribs is the latest system for heavy-duty power transmission. It's made with neoprene, Du Pont's chemical rubber, and is built to take the roughest service industry can offer.

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for your plant—no matter how tough the job.

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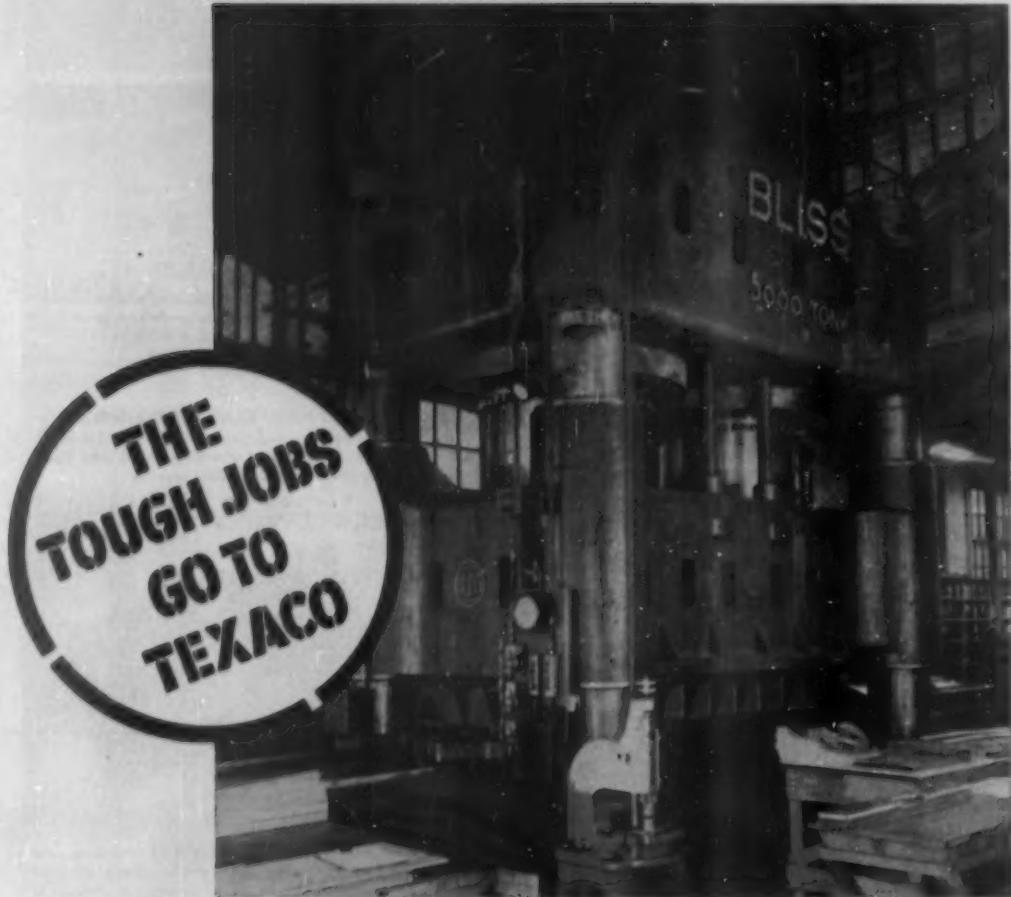
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Geneva: First Step to Survival

- The summit meeting effected a real change in the world situation.
- Instead of the cold war, an atmosphere now exists in which negotiation on specific issues can succeed.
- Internal and external pressures have forced radical changes in Soviet policy.

East and West have taken the first step toward a workable way of surviving in the H-bomb age. That's the word that Pres. Eisenhower brought back from Geneva at the beginning of the week.

A settlement can't be achieved until after many more steps as successful as the one at Geneva. And the next steps will involve detailed negotiations about the really big issues—about disarmament and about German unification within a European security system.

But Geneva created enough trust on both sides to make fruitful negotiations possible. That kind of trust never existed before. For the first time the Soviet leaders showed some realization of why Eisenhower keeps stressing that the real question is how East and West can remove the terrifying threat of nuclear war.

I. The Soviet Shifts

In fact, Eisenhower came back convinced that the Russians don't want war.

Geneva convinced him too, that Moscow will do everything it can to restrain Red China from reckless adventures. This explains why the U.S. is prepared to start direct negotiations with the Chinese Communists early in August (page 99).

Beyond this, Geneva revealed at least three significant shifts in Soviet policy:

Moscow has dropped military threats from its arsenal. Apparently Soviet generals have concluded that the old policy of military threat has become too dangerous for the H-bomb age; Soviet economists seem convinced that it is too expensive; and Soviet politicians begin to see that it doesn't work.

The Kremlin has quit trying to isolate the U.S. from its allies. Overnight it has switched its worldwide propaganda against the U.S. to a honeyed line about the new U.S.-Soviet relationship as the backbone of world peace.

Stalin's dogma about capitalist encirclement is washed up. Eisenhower is now being portrayed to the Soviet people as a real peacemaker. This sort of thing, plus the exchange of free-wheeling farm delegations between the U.S. and the U.S.S.R., has lifted the ideological Iron Curtain a good way.

• As Expected—Eisenhower and Secy. of State Dulles went to Geneva with the conviction that the tide had turned against Communism (BW—Jul. 16 '55, p25). But they realized that the Soviet leaders wouldn't admit this and wouldn't yield suddenly. They knew that a dictatorship, even a dictatorship by committee, cannot retreat overnight—not without risking the disintegration of its power.

That's why Eisenhower and Dulles set themselves such limited objectives for the summit meeting. All they hoped to do was to set in motion a process that would eventually lead to Soviet withdrawal from the advanced position Stalin had taken up in Europe.

Nothing happened at Geneva to alter either their assumptions or their expectations.

II. The Bargaining

The Soviet game at Geneva was clear. They wanted to stake out a claim to the status quo in Europe. And they offered a price:

- Acceptance of Eisenhower's atoms-for-peace plan.
- Some accommodation to U.S.





ALL SMILES. Zhukov, Bulganin, and Khrushchev leave Geneva to face again internal strains that change Soviet policy.

views on how to approach international supervision of the weapons of nuclear warfare.

• An end to cold war propaganda.

But on Germany, Premier Bulganin, who maintained his position as the Soviet counterpart of Eisenhower despite the presence of Khrushchev, wasn't prepared to budge until the last minute.

Both Bulganin and Molotov were adamant throughout the conference on the problem of German unification, which is the heart of any European security plan. They insisted that Germany and European security be treated separately, that unification wait until a new security system has been set up. They did their best to have Germany excluded from the subjects that the summit meeting would pass on to the foreign ministers for negotiation.

• Back Down—The West, of course, refused flatly to give up its basic position on Germany—that there can be no security system without restoration of German unity.

When the Soviet delegates realized that the West meant business on this issue, they backed down. They accepted a procedure for the foreign ministers' conference that specifically linked the two questions. The back-down came after private sessions between Eden and Bulganin and between Eisenhower and Zhukov.

This final concession doesn't mean that the Kremlin is ready to negotiate on Geneva in the spirit of the conference's final directive. But it does prove that the Kremlin wants to keep the East-West negotiations going.

Some deal on this issue may well look better to the Kremlin than a renewal of the cold war does.

III. The Soviet Policy

It isn't enough to weigh these developments in purely diplomatic terms.

You have to take account of developments inside the Soviet Union to see the shift of East-West power relations. Some shrewd observers at Geneva size things up this way.

Now that the Kremlin has given up military threats as its main political tool, it will concentrate on three policies:

Containing potential danger points. In Europe this means hemming Germany in with some kind of security pact, one in which the U.S. would participate. Eisenhower argued that Germany would be effectively controlled inside NATO. But, according to this analysis, the Russians are convinced that if they drop their military pressure, the U.S. would take less interest in NATO and Germany could turn to expansion again. So—ironically—the Russians are becoming almost as eager to keep the U.S. in Europe as they formerly were to drive it out.

Disarmament to provide enough resources to correct the lopsided Soviet economy. Military expenditures, especially on intercontinental weapons, must be cut substantially. The U.S.S.R.'s current economic troubles can be traced directly to the military strain on its industry; this has slowed the output of consumer goods and has deprived agriculture of the mechanization needed to offset a smaller labor force on the farms.

Opening up the Soviet bloc economic system, which has been tending toward autarchy. The most important thing is substantial imports of basic industrial equipment from the West, though food also may be needed temporarily. The big problem will be to find exportable items to trade with.

• Next Round—These trends in Soviet policy won't show up fullgrown by October when Dulles tackles Molotov or, perhaps, a successor. But at this conference the West will be able to probe

such trends more deeply than at the summit meeting.

Again the big issue will be Germany. By that time the West will know the results of the direct talks Chancellor Adenauer plans to have with the Kremlin. No doubt the Russians will try to revive their old policy by offering Adenauer inducements to move away from NATO. But it would take something as substantial as a Soviet offer to renounce the Oder-Neisse territories to make any impression on the German chancellor. And that doesn't seem to be in the cards.

The West will stick to its guns on Germany. Dulles will insist that it be unified by free elections and then be allowed to determine its own position between East and West. The only concessions the West will make will fall in the general framework of the Eden Plan for European security, which the British prime minister offered tentatively at the summit meeting.

IV. The Eden Plan

This plan is meant to bridge the gap between Moscow and the West by providing foolproof guarantees against any possible revival of German militarism. It boils down to these five points:

(1) All forces from the English Channel to the Soviet border would be frozen at present levels, then reduced gradually under a system of mutual inspection and control. The inspection scheme would provide an "international alarm system" to prevent surprise attack.

(2) The area now comprising the Soviet zone of Germany would be demilitarized to provide a buffer area between Soviet and British-American forces. A united Germany would be limited to an army of 12 divisions, the

figure now slated for West Germany alone.

(3) American and British troops would withdraw westward from their present advanced positions in West Germany as Soviet forces withdrew eastward.

(4) The Security system would be enlarged gradually to include all of Europe.

Eden seems convinced that his plan can bring Moscow to terms on the German problem. He also feels that the arms inspection techniques provided for in Point I would be a useful path toward general disarmament—a surer one, in his view, than Eisenhower's sensational proposal for mutual aerial inspection.

V. Disarmament Hopes

All disarmament proposals, including Eisenhower's, were passed on by the summit meeting to the permanent disarmament committee of the United Nations. The committee is to meet in New York late in August.

Chances are that considerable progress can be made in this field. Soviet interest in disarmament struck American officials at Geneva as genuine. It may be too much to expect the Russians to accept Eisenhower's bold offer at this stage of the game. But something on this order shouldn't be excluded if the foreign ministers make progress toward a German settlement. Equally, of course, disarmament will

get stalled badly if there is no headway on Germany. That's how closely inter-related the two East-West issues are.

• **Role of Trade**—You can't exclude the role that trade might play in influencing the course of future East-West negotiations. At the summit meeting both sides played coy on the trade question. The Soviet leaders still seem unwilling to disclose how urgently they need access to Western goods. And the West hasn't been willing to make any offers until it is clear that the Kremlin is ready to pay a price in political terms. However, the positions could loosen up during the foreign ministers' meeting.

There is no way of predicting just how long the East-West settlement process will take. It depends largely on how the Kremlin decides to handle the economic and political pressures inside post-Stalin Russia.

At Geneva, the Soviet delegation put up a good front trying to show it was leading from strength at home; that, to use Khrushchev's phrase, it hadn't come to Geneva with "broken legs." When the Soviet leaders stopped in East Berlin on their way home, Khrushchev boasted that at Geneva the West hadn't been able to make anything of its "position of strength."

• **Tension at Home**—Actually, the Kremlin's whole handling of the Geneva conference indicates how badly it needs to give the Russian people assurance of peace and a better life—

and thus relax tension at home. The Soviet leaders compromised on the German problem because they didn't dare have the summit conference blow up. The Soviet press and radio, which they control, has even exaggerated the success of Geneva and applauded the new Soviet "friendship" with the U.S. with slightly sickening fulsome ness.

By building up Geneva in this way the Soviet leaders may find they will have to satisfy the Russian peoples' appetite for goods as well as for peace. It wouldn't be surprising to see them make cuts in defense spending this year to allow room for more consumer goods. At Geneva Khrushchev himself admitted privately to a Yugoslav diplomat that things have changed in the Soviet Union since Stalin's day. "We are no longer able to do whatever we like," he said ruefully.

Official Soviet figures for the first half of 1955 show that the current rate of growth in consumer goods output is slower than at any time since World War II. Growing demands in the cities and the countryside can't be met. And this is bound to hurt both industrial and agricultural output.

Indeed, the figures suggest that it will take more than small measures to relieve the new pressures inside Russia. It's a safe bet that the Kremlin leaders, no matter who they might be, will have to return before long to Malenkov's emphasis on consumer goods. And to find the resources for this means a lighter armaments load.



AFTER GENEVA. Dulles and Molotov (or a successor) will meet again in October to tackle huge German issue.



FIGHTER MOORE, right, and backer Reese, left, at North Adams (Mass.) camp.



MOORE makes camp arrangements with Robert Harp, city manager, and council.



AUTOGRAPH hunters corner Moore at airport in North Adams.



ARCHIE MOORE, left, with Bob Reese, auto dealer; Michael V. DiSalle, attorney, and Dr.

Promoting a Boxer

Not many men are eager to climb into the ring with heavyweight king Rocky Marciano, but that has long been the ambition of Archie Moore (pictures). On Sept. 20 at Yankee Stadium, Moore will get his heart's desire. But it took a high-powered sales campaign by three Toledo men with a lot of business savvy to put him there.

Moore has been boxing for 20 of his 38 years, has won 120 times (82 by knockouts) in 144 listed fights. Two years ago he won the light-heavyweight crown from Joey Maxim. But he wasn't getting anywhere in his quest for the big payoff—a heavyweight title bout—until his Toledo friends started making him a household word last fall.

His trouble: Managers of top heavyweights regard him as not colorful enough to draw big gates, yet as good enough maybe to wreck their boys' careers. They wouldn't risk any title chances in a fight that wouldn't draw.

• **Smoke-Filled Room**—But Moore has friends: Bob Reese, Toledo's biggest

Ford dealer (more than \$8-million gross last year); Dr. Nicholas P. Dallis, psychiatrist and creator of the Rex Morgan, M.D., and Judge Parker comic strips (syndicated for 63-million daily readers), and Michael V. DiSalle, attorney, former mayor of Toledo, former director of the Office of Price Stabilization under Truman.

Last October, Reese and Dallis huddled in a Toledo hotel room with Don Wolfe, sports editor of the Toledo Blade. They heard Moore talk emotionally about his heavyweight title ambitions, and they laid out a campaign to generate public demand for a Marciano-Moore match.

"All of us were convinced," says Reese, "that Moore is one of the most masterful boxers in the ring today. We were also convinced that unless some drastic action was taken the big wheels in boxing wouldn't give him a shot at Marciano. And time was running out. Archie is 38, way beyond the time when most boxers are active."



Nicholas Dallis, psychiatrist and comic strip writer—Toledo men who took part in . . .

Into a Title Chance

• **The Campaign**—The promotion that won Moore his Sept. 20 date with Marciano was, as Reese puts it, "a merchandising campaign pure and simple." Letters, telegrams, folders, cartoons, reprints of clippings, personal appeals signed by Archie—all these went to 500 sports editors and writers. All carried the same message: that Marciano and his manager, Al Weill, were ducking a title match with Moore.

"Archie acted as his own messenger boy," says Reese. "He and I would meet in my office at 7 or 7:30 every morning and talk over what we would do that day. Then Archie would carry the stuff to the printer, pick it up, help stuff envelopes, and take the telegrams to Western Union."

It was Dr. Dallis' advice as a psychiatrist to keep Archie busy, keep the title chance always in his mind, and make him feel he was participating in everything. "Besides," adds Reese, "if he couldn't get a fight with Rocky, at least we could keep him fighting mad."

• **Gimmicks**—The amateur publicists (they rejected the idea of getting professional press agents in) worked all kinds of stunts. They ran classified advertisements in 40 major newspapers, calling for ideas about getting Moore a crack at Marciano (more than 1,000 replies); sent out "wanted" posters signed by "Sheriff" Archie Moore, with Marciano's mug on them; got out a poll to 128 newspapers asking what they thought of a Moore-Marciano bout (sports writers voted 501 to 183 that Moore would be beaten but 90 to 1 that he deserved first crack at the title).

Moore also tagged Marciano around the country, repeating his challenge, sometimes to his face. And he gained stature last month by his three-round knockout of Bobo Olson.

• **Politics**—Last winter, DiSalle became active, too. He got Sen. John O. Pastore of Rhode Island to dwell on Moore's plight in public statements that were widely printed. Sen. Estes Kefauver, one of DiSalle's closest politi-



TRAINING RING at Glover's Bowl, North Adams, Mass., gets Moore's O.K.

cal friends, sent a letter to Sen. Warren Magnuson of Washington, urging an investigation of boxing. Magnuson, an avid sports fan, announced a "strong possibility" of a Senate investigation.

In February, DiSalle announced that he had advised Moore to complain to Atty. Gen. Herbert Brownell that the International Boxing Club was thwarting his legitimate aspirations, contrary to the antitrust laws.

"Whether all these factors had anything to do with the ultimate IBC decision [setting up the Sept. 20 bout] I can't say," DiSalle comments. "But I'm sure they didn't hurt Archie's chances."

• **Finances**—None of the Toledo trio has any official financial interest in Moore, nor any formal agreement for repayment of the money they've spent promoting him (Reese has recorded an outlay of \$50,151.71 since October). First Reese (in 1949), then Dallis, and now the three men have been helping Moore strictly for the fun of it.

As for Sept. 20, they're confident of the outcome. "Marciano doesn't stand a chance," says Dr. Dallis. "Five rounds—Moore," says Reese.

FIRST HALF PROFITS: Shooting at a New Record

	SALES			NET PROFITS		
	First half 1955 (thousands)	% Change from 1954	% Change from 1953	First half 1955 (thousands)	% Change from 1954	% Change from 1953
AIRCRAFTS						
Douglas Aircraft	\$425,841	-11.8%	-5.0%	\$13,681	-28.7%	+36.9%
Glenn L. Martin	126,999	+31.0	+78.9	5,522	-19.0%	+22.0
Republic Aviation	300,595	+80.1	+59.6	9,612	+109.0	+157.1
AUTOMOTIVE, OILS						
Atlantic Refining Co.				18,903	-4.4	-16.4
Eaton Manufacturing	115,427	+26.1	+5.9	7,397	+42.1	+34.5
General Motors	6,513,000	+28.6	+19.7	561,000	+55.5	+111.2
Houston Oil	18,158	+9.1	+15.5	3,739	+19.8	+11.5
National Supply Co.	121,479	+4.7	+4.9	4,431	-6.9	-2.6
Shell Oil	713,666	+8.8	+18.1	54,497	-14.1	+7.4
Sun Oil Co.				24,407	+19.6	+12.7
Texaco				124,834	+28.1	+45.2
Thompson Products, Inc.	146,846	+1.7	-13.1%	6,768	+4.3	+26.3
CHEMICALS						
Allied Chemical & Dye	318,181	+17.1	+17.1	26,524	+16.9	+22.1
American Cyanamid	225,357	+14.9	+14.1	18,539	+32.9	+9.2
E. I. du Pont de Nemours	942,000	+14.7	+4.4	182,416*	+19.6	+59.0
Hercules Powder	112,562	+22.2	+12.6	9,315	+30.3	+37.9
Rohm & Haas	81,509	+23.3	+31.5	9,006	+47.9	+168.4
Union Carbide & Carbon	554,967	+27.4	+4.9	63,615	+52.9	+21.2
GLASS, PAPER, BUILDING SUPPLIES						
Federal Paper Board Co.	16,951	+1.3	+66.3	1,169	-28.3	+22.9
General Portland Cement	18,425	+16.6	+19.9	3,820	+22.6	+36.5
Johns-Manville	131,720	+12.8	+6.7	9,262	+15.4	-18.4
Lehigh Portland Cement	31,940	+29.3	+22.9	4,632	+74.1	+85.0
Mengel Co.	21,627	+19.0	+0.1	838	+110.6	+16.9
Owens-Corning Fiberglas	75,104	+17.5	+17.8	4,566	+25.5	+46.8
Rubberoid	40,424	+14.3	+12.3	1,993	+1.3	-8.2
St. Regis Paper Co.	112,475	+11.0	+10.5	8,713	+9.5	+22.3
Scott Paper	125,825	+10.9	+54.5	11,075	+19.0	+97.0
MACHINERY, ELECTRICAL EQUIPMENT						
Allis-Chalmers Mfg. Co.	267,041	+3.2	+3.3	12,563	-6.9	+20.2
American Bosch Arms	39,799	-0.9	-4.7	1,458	+3.3	+71.1
Caterpillar Tractor	251,991	+26.8	+6.4	15,447	+92.3	+33.1
Clark Equipment Co.	64,780	+25.3	-0.1	3,717	+33.8	+21.0
General Electric Co.	1,523,951	+5.3	-2.3	101,892	+8.6	+35.1
Minneapolis-Honeywell	114,859	+1.8	+11.9	7,241	+3.1	+47.7
Monarch Machine Tool	3,181	-75.6	-80.6	285d		
METALS						
Acme Steel	53,338	+29.3	+34.7	3,395	+72.3	+33.1
Continental Steel	23,700	+23.4	+14.2	1,585	+76.5	+78.5
Crucible Steel	114,829	+35.9	-9.1	6,285	+379.0	+60.8
Republic Steel	570,685	+31.7	-5.1	41,137	+64.0	+41.3
U. S. Steel	1,968,161	+17.8	+2.5	177,878	+89.5	+69.4
Youngstown Sheet & Tube	297,032	+32.9	+5.0	18,007	+98.5	+20.5
MISCELLANEOUS						
American Tobacco	533,756	+3.0	+1.7	23,202	+16.7	+30.9
Container Corp.	102,259	+12.7	+10.3	7,633	-5.8	+55.3
Continental Can	306,048	+7.2	+26.3	10,289	+12.7	+48.9
Liggett & Myers Tobacco				11,428	+10.4	+8.7
P. Lorillard Co.	117,659	+0.3	-1.6	2,630	-29.5	-20.3
Rheem Mfg.	81,689	-11.4	-13.3	3,163	-4.0	+13.9
U. S. Tobacco	13,877	-7.1	-13.1	1,327	+23.6	+7.5

*Business Week estimate

d-deficit

The Treasurers Are Confident

As earnings figures for the first six months of this year continue to pour in, the word "record" gets more and more commonplace. Not only are individual records—such as U. S. Steel's 39-year-old high mark for a single quarter—falling right and left, but over-all corpo-

rate earnings are clipping along at an annual rate just slightly below the record, set in 1950. That year corporate profits after taxes swelled to \$22.1 billion. The Council of Economic Advisors estimates that this year second-quarter profits piled up at a \$21.2-billion

rate; that preliminary estimate is beginning to look conservative in the light of some of the earnings in the table above.

How close total corporate earnings come to that 1950 top is hard to see at midyear. But when you talk to corpo-

rate treasures themselves, you come away with the feeling that a record is in the bag. A spokesman for one of the nation's largest producers of non-ferrous metals says his company will have a "whopping year, with new records for both sales and net." Any slackening in volume is expected in the fourth quarter, if at all.

• Steel—Among the leaders, U.S. Steel had the best first half since 1917, with profits up to \$177.9-million, around 89.3% better than the like period last year and 68.5% above 1953, which wasn't a bad year at all. Big Steel's 1916 record of \$90.8-million in earnings for a single quarter was eclipsed by this year's second quarter mark of \$105.2-million. And some of the smaller steels had even more impressive gains, percentagewise, than Big Steel. Crucible Steel for instance, which slumped sharply early last year, picked up 379% in profits in the first half of this year. Sharon Steel had net profits about seven times better than 1954's first half, although only slightly above 1953's first half.

Autos, steel's running mate in the business recovery, also piled up some significant records. General Motors' sales and earnings for the first half of this year surpasses any other similar period in its history, and it now becomes pretty conclusive that GM will earn \$1-billion this year based on its \$661-million for the first half. Defense sales were off 25% in the first half, so all of GM's gains came from civilian business. GM's second quarter sales and earnings figures were also all-time records for the company.

American Motors may not have matched GM's showing, but after floundering in red ink for its first six months, it racked up net profits of about \$1.6-million.

• Chemicals—Another strong spot has been the chemical industry, which, although it suffered less than some others last year and hence doesn't show as sharp percentage gains in net, is full of bright spots. Giant E. I. du Pont de Nemours dipped slightly in sales volume from its record first quarter, but amassed \$182.4-million in net profits, based on its per-share earnings figures. Much of the gain in chemical earnings this year comes from production of plants that were just recently put into operation.

Probably the only hoodoo in generally rosy predictions for second half profits is a third quarter slack-off in steel and autos as a result of the auto model changeover. And predictions are mounting that the changeover may not have too much effect on earnings. As for steel inventories, another earlier cause of worry, they are shrugged off now. As one steel spokesman put it, "All our inventories are in car dealers' lots."

Too Much Uranium?

Military demand is now taking all that can be produced. But if there should be a cutback, civilian uses wouldn't take a fraction of present output.

Last week's summit meeting at Geneva gave new emphasis to a vital long-range problem confronting the hundreds of U.S. firms engaged in various phases of atomic energy development—and the thousands of investors in uranium properties.

You don't hear much talk about it, but increasing numbers of businessmen are worrying these days about prospective demand for uranium, that basic raw material of the atomic industry, over the next five to ten years. Right now uranium is pouring from foreign and domestic mines through our huge and costly fabrication plants, thanks to a seemingly insatiable demand from our armed forces. But how will its expensive pipeline be affected if military demand for the metal slackens substantially?

• Civilian Requirements—People in the atomic industry—like everyone else—are hopeful that the Geneva conference will lead to lasting world peace and, eventually, effective disarmament. But if disarmament or a limitation of arms should come in the next 10 years or so, civilian requirements for uranium, now barely visible to the naked eye, are unlikely to be more than a small fraction of present military demands. Utter chaos in the uranium supply pipeline could result unless some pretty dramatic steps are taken, probably by the government. What worries businessmen most is that Washington apparently is giving very little thought to this problem.

Present production of uranium in usable form for both military and civilian purposes is secret, of course. But it is huge. The armed services are producing weapons in a wide range of sizes, from city-smashing hydrogen bombs to atomic artillery shells and warheads for guided missiles. The Navy is planning to convert most of its fighting ships to atomic propulsion as fast as Congress will provide the money to do so. Atomic-powered aircraft are being developed for the Air Force.

You get some idea how good production of uranium must be when you hear informed people in government and business predicting that, in the face of all this demand, the services probably will have more of the metal than they can use by 1960 or thereabouts. Real disarmament, of course, could nail down this prediction or even advance the saturation date.

Civilian demand is piddling. It stems

chiefly from a handful of research reactors built, or being built, by colleges and research foundations. Total demand from this source is small when you consider that the government loaned North Carolina State College 999 grams of U-235 for its research reactor in September, 1953.

• Future Demand—Big demand eventually will come from reactors to supply electric power. But these big units take three to five years to build. No more than three such plants, now being built or in advanced planning stages, are likely to be in operation by 1960.

These are power reactors to be built by industry. You can't very well count the power reactors being built by AEC since they are experimental machines designed to prove out varied designs and techniques.

It is expected that industry will have several more reactors under construction or on the drawing boards by 1960—perhaps a dozen or two. But even these, when completed, scarcely will put a dent in anticipated available supplies of uranium.

"There is absolutely no possibility that industrial demand in the next five or six years will be anywhere near sufficient to absorb our uranium supply," says one businessman who is in a good position to guess at current uranium production rates. "In fact, it may well be 20 years or more before requirements for industrial reactors even approach present uranium production. And I expect our production rate will continue to go up as long as there is any military demand."

At the mining level there is no problem in sight until after March, 1962. The government has guaranteed that it will purchase ore of worthwhile content until that time. But any earlier cutback in military demand would play hob with the operations of the several multimillion-dollar plants that convert ore into uranium concentrates, convert the concentrates into metal or other forms for weapons and reactors.

• Subsidy?—"Some form of government subsidy, perhaps in the form of a stockpiling program, almost certainly will be necessary to keep these plants in operation when military demand falls off," says an executive whose company has been hip-deep in atomic work for years. "That probably would scare off a lot of electric utility people who now are wondering if they should start building nuclear power plants."

Braking Consumer Credit

The Fed and Comptroller of Currency move together with cautionary words and an order for reports on the fast-expanding loans.

Monetary authorities have flashed a yellow light on consumer credit. The warning beam has come from two sources—the Federal Reserve Board and the Comptroller of the Currency.

The Fed sent its warning to its state member banks. The warning took the form of a letter announcing that bank examiners would now require a full report on consumer and installment credit.

The Comptroller delivered his letter to all national banks. This warning was more pointed than the Fed's. It stated that recent surveys indicate "a tendency to loosen terms," especially in auto financing. The Fed's letter pointed out that permanent reports on consumer credit lending by banks were being demanded because of the increased importance of consumer credit.

The joint action by the Fed and the Comptroller was required to cover the banking system throughout the nation. Together, the Fed and the Comptroller are responsible for supervising banking practices.

• **Interpretation**—Most bankers saw in the announcements a sign that monetary authorities are concerned about the quantity and quality of consumer loans. They realized that ever since the elimination of Regulation W, which established control on consumer credit, the Fed has had no legal means to control banks' consumer loans. It has had to depend on an "open mouth" policy of moral suasion. So most bankers see the Fed's letter as a determined attempt to make the "open mouth" policy work.

• **Drive to Lend**—There's no doubt that consumer credit has been expanding in the last six months. It has been a main stimulus to booming sales in autos and other lines. And banks and finance companies have been engaged in a hot competitive drive for the consumer lending market.

This competition has brought a definite trend toward easier terms. Many bankers consider that it's the terms, and not the amounts, that are worrying the Fed. They cite the frequency of 36-month terms and "ridiculously small" down payments as unsound banking practices.

But though most bankers admit there are many instances of loose credit practices, not all are convinced that the Fed is going to crack down. The general reaction to the Fed's letter is one of injured incentive. The Fed, it's

widely held, is pointing a finger at the other guy. This is the response that BUSINESS WEEK reporters got in checking banker reaction across the nation.

• **"Not Me"**—In almost all cases, bankers queried by BUSINESS WEEK declared that they have been following sound business practices in extending consumer loans ever since the end of Regulation W, but the same bankers also were quick to report that other banks and finance companies were much less strict.

Most bankers welcome such a development as preferable to a return to Regulation W, but there are many who feel that even strict examination procedures don't go far enough. For one thing, they say, it will have no real effect on finance company lending. And for another, consumer lending is less affected by general curbs than most other forms of credit.

That's because the rising level of interest rates just doesn't mean much to the consumer borrower. "The guy who wants to buy a car doesn't care if

he has to pay an extra ½% on his loan," a Midwest bank official pointed out. "All he is interested in is getting a deal that will enable him to meet his payments."

• **Shifting Blame**—Some bankers complain that the Fed's move is unfair because it curbs banks but not finance companies. A leading Washington banker said, "There have been some fantastic terms around, not from banks but from finance companies. They've made it rough on banks." An Atlanta banker said finance companies were responsible for 48-month terms.

As a matter of fact, the variation in terms across the country seemed to indicate that the Fed's action would bring changes. In Chicago, most insist that they would not exceed 36-month terms. Houston bankers claim that they demand a one-third minimum down payment and an 18-month term in auto financing. In Washington, the usual auto loan is for 24 months. In St. Louis, terms range from 30 to 42 months. One New York banker admitted that terms are not so loose as advertising suggests.

On the other hand, banks that have extended credit to finance companies feel that they have set up extremely rigorous standards. They say the real offenders are small banks that have to offer extravagant terms to attract customers.

Chicago to Get Atomic Power

The biggest atomic power plant—running exclusively on nuclear fuel—is scheduled to be built for Commonwealth Edison Co. by General Electric Co. under a \$45-million contract signed last week. It will have a capacity of 180,000 kw.

Consolidated Edison Co. of New York is planning to build a 250,000-kw. atomic power plant, but an oil-fired superheater will be teamed up with the nuclear reactor to achieve this capacity. The reactor alone would produce 140,000 kw.

Site for the Commonwealth Edison plant is 47 miles southwest of Chicago, on the Illinois waterway. It will serve Commonwealth's system in Chicago and northern Illinois. Seven other companies are joining Commonwealth in sponsoring the plant.

The project will be financed entirely with private funds. Atomic Energy Commission hasn't O.K.'d the proposed plant yet, but its approval is expected.

Commonwealth will own and operate the plant, and pay \$30-million of the construction cost. The eight sponsors together will pay the \$15-million research and developmental expense.

• **The Sponsors**—The eight incorporated as Nuclear Power Group, Inc.

Philip Sporn, president of American Gas & Electric, New York, is president and a director.

Other directors and their companies: S. D. Bechtel, Bechtel Corp., San Francisco; T. A. Schlink, Central Illinois Light, Peoria; Willis Gale, Commonwealth Edison's chairman; Allen Van Wyck, Illinois Power, Decatur; H. B. Munsell, Kansas City (Mo.) Power & Light; J. B. Black, Pacific Gas & Electric, San Francisco; J. W. McAfee, Union Electric, St. Louis.

These companies have been working together for the past two years. They started a joint study about a year and a half ago for AEC, and decided that building a plant would be the best way "to advance the state of the art."

Much study is yet to be done. There's a year or so of design work ahead, and the contract provides that if AEC approval isn't forthcoming in two years, the deal is off. Otherwise, the plant will be completed about 1960.

• **Design**—It will use a dual-cycle boiling water reactor (BW-Jun.18'55,p56).

GE has started work on design of the reactor and has contracted to do all the design work incidental to the new plant and deliver it as a completed package ready for operation.

Why operating costs keep falling at Pawling

BY MR. FRIENDLY



THE COMPANY: Pawling Rubber Corporation, Pawling, New York, manufacturers of extruded rubber and plastic products and Parco-Link mats.

THE RECORD: In the 5 short years since they became American Mutual policyholders, we helped Pawling save \$15,858 through reduced insurance premiums, and another \$14,727 through dividends. Total savings: \$30,585!

THE METHOD: Teamwork between insurance company and manufacturer in setting up a safety program with employees and making it work!

While it's never a snap to cut overhead, companies like Pawling from coast to coast have found it far easier than they expected to save money through the help of American Mutual.

Our special service in developing effective safety programs has been responsible for preventing thousands of disabling injuries and deaths throughout industry—thus boosting worker morale and saving many millions of dollars.

If you'd like more facts about this outstanding American Mutual service, write American Mutual Liability Insurance Company, Dept. B-125, 142 Berkeley St., Boston 16, Mass.



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Savings from regular substantial dividends!

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Rockwell Report



by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company

THE NEW, AND SOMEWHAT AMAZING, electronic order-invoice system created for our Delta Power Tool Division has been in use long enough, now, to prove its basic operational advantages.

Its function is to replace repetitious manual paper work processing, and all its chances for human error, with foolproof electronic "brains" and "hands." To the best of our knowledge it is the first such electronic order handling system to be used by industry.

Under the new procedure, all orders are sent directly to our headquarters office, rather than to district offices. Pre-punched cards, which include the customer's name, address and shipping-charge information, are matched with product description cards key-punched with information pertinent to the order, and "mark-sensed" to indicate quantity. The cards are fed into a card-to-tape machine which prepares a five-channel punched programming tape.

The tape controls a teletype transmitter which produces three copies of the order for sales department use. Simultaneously, hundreds of miles away in the warehouse nearest the customer, a receiving apparatus produces three copies for shipping papers.

The new system enables us to give our customers better service through processing and filling orders faster. We can also issue credits faster, as a result of centralized credit information and simplified controls. And sales management gets proved daily records of new orders, and shipments, which results in a better balanced inventory and fewer back-orders. A further cost-cutting advantage is the substantial reduction in the amount of correspondence between sales office, headquarters, and plants.

The new system was worked out for us by Shaw-Walker Company, methods consultants, in conjunction with International Business Machines Corporation, Bell Telephone Company, American Telephone and Telegraph Company, and Standard Register Company.

The trend toward increased use of water meters is growing rapidly, for two fundamental reasons. The first is that shrinking reservoirs throughout the nation are forcing recognition of the need for basic conservation measures, such as metering. The second reason is increased pumping costs, even where there is no water shortage. Metering distributes these added costs equitably among water users. Our meter and valve division estimates that by 1960 practically every urban home in America will be equipped with a water meter.

The new Rockwell-Ohmer electric taximeter is finding excellent acceptance among progressive taxicab companies. While we are more than pleased with the way the new electric meters are being purchased, we are also proud of the fact that some of the old Ohmer mechanical printing meters being replaced have been in service for as long as thirty years.

The number of our shareholders has multiplied more than fifteen times in the past nine years—from 729 at the end of 1945 to 11,005 at the end of 1954. During last year alone, we added more than 1200 shareholders, which is an encouraging, and tangible, expression of confidence both in our American economy and in us as a company.

One of a series of informal reports on the operations and growth of the
ROCKWELL MANUFACTURING COMPANY
PITTSBURGH 8, PA.

for its customers, suppliers, employees, stockholders, and other friends

BUSINESS BRIEFS

Bulova Watch Co. has arranged to buy under certain conditions the one-quarter interest in Tiffany & Co. now held by Irving Maidman, an active critic of the jewelry company's management. Bulova gave no reasons for the deal, but did say that it wouldn't have signed up for the 33,000 (out of 132,000) shares unless it had been interested in getting still more.

Super refractories that can withstand greater heat than present types are being sought by the Atomic Energy Commission. That's why AEC has granted access to restricted nuclear information to the Harbison-Walker Refractories Co., of Pittsburgh, to do research on the project.

Brown Shoe Co. put its foot deeper into retailing when the boards of the big manufacturer and of G. R. Kinney Co. agreed to merge. Kinney operates some 350 retail stores, plus small manufacturing facilities. In their last fiscal year Brown had sales near \$139-million, Kinney \$50-million. The deal is on a basis of two shares of Brown stock for three of Kinney.

Gasoline price wars persist on the East Coast, even while prices are strengthening in the mid-continent and Rocky Mountain areas. In New Jersey, Esso Standard has given up an effort to curb the price slashing by cutting its 1¢ a gal. allowance to dealers. In the mid-continent area, some refinery prices were raised 4¢ a gal.; in the Rockies, Continental Oil boosted prices in a .4¢ to a .6¢ range.

Economic indicators from here and there: Gross national product for the second quarter hit a record annual rate of \$383-billion, the Council of Economic Advisers reports. . . . F. W. Dodge Corp. says construction contracts for the first half in the 37 eastern states were close to \$12-billion, a 30% jump from the year-ago figure, indicating a busy second half for builders. . . .

Short interest in Big Board stocks was 2,739,976 shares on July 15, or .1% of all shares listed. The total was a bit above June 15, but below the mid-May figure, says the Exchange.

A ship replacement program to cost \$6-billion in the next few years has been launched by six U.S. shipping companies. The plan is aimed to renovate the merchant marine; it will provide 500,000 man-years of shipyard employment. The federal government will put up about 40% of the money.



How to catch a headline in the making

High above this news story a camera whirred away, filming tense moments behind the headlines. Remarkably soon, you witness scenes like this on your TV screen.

The same kind of film that TV news cameramen rely on is also a "natural" for plant movies and motion studies where light conditions often prohibit

the use of regular film.

Du Pont's High Speed Rapid Reversal Motion Picture Film - Type 931 - is one of the fastest films you can buy. It has wide latitude, and it can be completely processed in a matter of minutes. Its fine detail enables you to enlarge 16-mm. frames if you want still pictures for further study or for sales-

promotion material.

Why not take advantage of the many qualities of Du Pont 931 - a film with the ability to do a superior job under adverse conditions anywhere. For complete information about Du Pont Motion Picture Film or other products shown, send coupon for free booklets, or for a call from our Representative.

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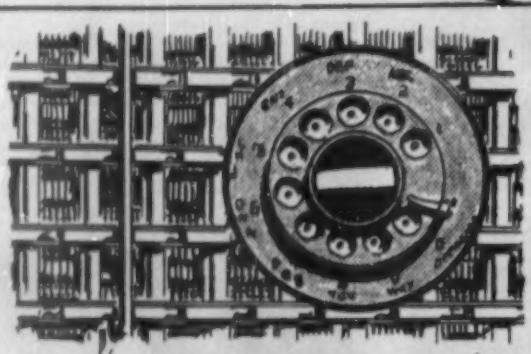
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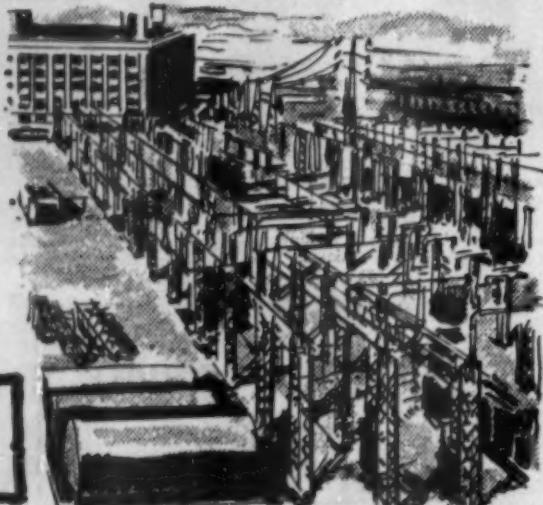
DIAL SYSTEMS "THINK"[™] AND EXIDES HELP THEM DO IT!

AUTOMATIC SWITCHING DEMANDS A STANDBY SOURCE OF POWER TO INSURE SERVICE CONTINUITY. TO SUPPLY INSTANT, AMPLE POWER, EXIDE MAKES A COMPLETE LINE OF TELEPHONE BATTERIES—IN BOTH GLASS AND PLASTIC. BACK OF EACH EXIDE STANDS YEARS OF CONSTRUCTION SKILL AND ENGINEERING RESEARCH!

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A GOOD EXAMPLE OF THE LONG LIFE OF EXIDE CONTROL BATTERIES COMES FROM THE LARGE WESTMORELAND SUBSTATION OF THE PHILADELPHIA ELECTRIC COMPANY. ONE 120-CELL EXIDE WAS INSTALLED IN DECEMBER 1927, ANOTHER IN FEBRUARY 1928. TWENTY-SIX YEARS LATER THE FIRST WAS REPLACED WITH A NEW, IMPROVED EXIDE-MANCHEX. THE OTHER BATTERY CONTINUES TO PROVIDE DEPENDABLE SERVICE! DO YOU HAVE A STORY LIKE THIS ABOUT YOUR EXIDE BATTERIES? SEND IT TO US FOR THIS ILLUSTRATED FEATURE.



Exide INDUSTRIAL DIVISION. The Electric Storage Battery Company, Philadelphia 2, Pa.

WASHINGTON OUTLOOK

WASHINGTON

BUREAU

JULY 30, 1953

A BUSINESS WEEK

SERVICE

How to keep the boom in hand? That's the question most discussed by Pres. Eisenhower's economic advisers these days.

The concern is over the price trend. Officials recognize the danger that the fast-running spending stream might overflow. It is being fed by business optimism and rising consumer income, with wages on the climb. The result could be a price inflation, with its inevitable "readjustment" (BW—Jul. 23 '55, p28). The impact of this could be a big influence on the 1956 elections.

The plan is to hold the credit reins tighter. There will be no sharp pull-up. That might make the horse stumble. The tightening will be gradual, and it's already getting under way.

Consumer credit is the first to feel the curb. The government today has no authority to reimpose old "Regulation W" and put an end to sales of autos on 42-month financing. Reliance is on the "jawbone" technique.

The pressure is on the lenders to slow down. That will be the result of letters sent out by federal supervisory agencies to the nation's banks, asking them to report consumer loans (page 32). No hard and fast policy was spelled out. But it was clear Washington thinks terms are too liberal.

Other actions will be more general in effect—tend to limit the supply of money available for lending and push up the cost of borrowing.

A higher rediscount rate is one. This is the rate Federal Reserve Banks charge member banks who borrow from them to get additional money to lend to customers. An increase has a psychological effect—tells banks that maybe they should be more conservative with credit. More than that, it makes new loans less attractive to a member bank if it is already loaned-up and can expand its credit only by borrowing from the Fed.

Another action is a tough policy on supplying additional reserves to back up new lending. Banks will need more reserves to handle the normal seasonal rise in credit demands this fall. The Fed is prepared to meet this need by buying government securities in the open market—but it will go slow and limit the supply of credit to what is needed to take care of essential business needs.

What it adds up to, on balance: Credit, a big factor in the boom, will be harder to get. Some people who might buy cars on the basis of little or nothing down and upwards of 3½ years to pay, won't be able to buy. Some would-be home buyers will have to wait. Credit for inventory will be harder to arrange, especially where plans call for an inventory buildup. Some businesses will have to postpone expansion plans. The aim, over-all, is not to lower the business level, but to avoid a spiral that would upset the price stability of recent years.

The Democratic strategy for 1956 is coming into focus. For perspective, look back a ways. Last year, the Democrats used fear of a "GOP depression" to help them win control of the House and Senate. The recovery, which now amounts to our biggest boom, came too late to help the Republican Party hang on to its Congressional majorities.

Looking ahead to the 1956 elections, the Democrats see no "natural" issue, unless the business picture turns sour or the peace trend reverses. So, they are out to get Eisenhower on other grounds.

The plan is to discredit businessmen in government—to build up a sus-

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
JULY 30, 1955

piction in the minds of the voters that there's a "new mess" in Washington. The Democrats feel they are making some headway.

—•—

Dixon-Yates is one example. The howl against the plan to let private power operate in the TVA region was local at the start, with no national political significance.

Then came the mishandling of the record—Eisenhower ordered publication of the preliminaries that led up to the signing of the now canceled deal. The mistake made was the deletion of two names from the record. The names have since become public: Adolphe Wenzell and Paul Miller, both of First Boston Corp. The Democrats are yelling "shady."

—•—

Talbott's business operations are another. The Air Force Secretary held on to his partnership in the management firm of Paul B. Mulligan & Co. (BW—Sep. 8'51, p94). The Senate, which confirmed him to his job, knew of these plans, but the promise from Talbott at the time was that he would have nothing to do with Air Force-connected business.

What started the Senate hearing was the digging of a Tennessee newsman. He heard about Talbott's activities, but couldn't get anywhere. So, he went to the committee. The investigation then came.

The findings: Talbott had been active in getting business for the firm. No question of legality was raised. The whole point was whether Talbott had used his office in an improper way. Talbott admitted he made a mistake and broke off the partnership.

—•—

Eisenhower is very angry over both incidents—Talbott and Dixon-Yates. One close associate puts it this way: The President is very strait-laced. Any irregularity, or anything that looks like irregularity, makes him boil. And the quickness with which Democratic leaders have come up with campaign quotations adds to the irritation.

—•—

Note Eisenhower's decisions, in the face of the political attack.

Dixon-Yates will be explained by former Budget Director Joseph M. Dodge and present Director Rowland Hughes. Orders are to give Congress everything.

Talbott: Eisenhower took this on himself. He was quick to defend his Air Secretary on the question of legality. But it was the matter of ethics that Eisenhower had to settle in making up his own mind.

—•—

New disclosures of Reds in government—in the war and prewar years are in the offing. The House Un-American Activities Committee has located a new "informer." He's an ex-employee of the old National Labor Relations Board and the War Production Board. More recently, he has been on the faculty of a law school.

—•—

Eisenhower may go to Moscow. It's still just an idea. But it's a fact that one of the things that impressed the President most at Geneva is how little the leaders of the West know about the leaders of the East. The President liked his "shop talk" with his old friend Marshall Zhukov. There's an invitation awaiting Eisenhower if he wants to take it. And he may, if it will contribute to a better East-West understanding.



SEE HOW LION OIL IS REACHING OUT

To Assure Oil and Gas Reserves for Tomorrow!

As a completely integrated oil company, doing its own exploration, development, refining and marketing, Lion Oil is well aware of the importance of establishing adequate reserves for Tomorrow. Significantly, Lion's successful completions of oil and gas wells in 1954 increased 48 per cent over 1953.

This skillful exploration and drilling program not only has added materially to proved reserves, but has boosted Lion's daily gross crude oil production to a new all-time record.

Important developments in 1954 included the completion of a large number of producing wells in

areas previously discovered in Colorado and the discovery of a new oil field in the same state; discovery of a new field in Louisiana; the successful completion of the Company's first oil producer in Montana; new oil production for Lion in New Mexico; and extended operations in Kansas.

In 1955, Lion is conducting exploratory and drilling operations in the area shown above—*one-fourth of the states in the United States*—the largest production development program ever undertaken by the Company in a single year.

In the future, as in the past, Lion will continue to reach out... wherever Progress beckons.

KEEP YOUR EYE ON...

LION OIL
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COMPANY
ARKANSAS

A Leader in the Exciting New Field of Petro-Chemistry . . . Producer of More Than 70 Petroleum and Chemical Products for Transportation, Industry and Agriculture . . . and More To Come.

MANAGEMENT

Fitting Computers Into a Business

Railroad presidents (right) at IBM's electronic data processing center in New York took a long and thoughtful look at the kind of computers that might create wholly new ways of doing business.



William White, Delaware & Hudson: "The advent of high-speed data processing will definitely cause centralization."

OTHER VISITORS listened to the chattering computers, marveled only at the complicated problems they solved.





J. A. Fisher, Reading: "We look forward to the time when information ready for the computer comes right from the shipper."



W. Arthur Grotz, Western Maryland: "I'll be able to have morning reports of everything that went on the day before."



J. M. Symes, Pennsylvania RR: ". . . we can now master much of the headaches of car accounting."



LAST WEEK, International Business Machines Corp. unveiled its enlarged and updated electronic data processing center on New York's Madison Avenue (pictures).

Besides the press, a score of railroad presidents from the Eastern Railroads Presidents Conference dropped in to look at the chattering computers.

Like most laymen, the presidents had little technical knowledge of how these modern abacuses work—and to many, the explanations provided by the IBM attendants were just that much more Greek.

• **New Significance**—Even so, the presidents sensed they were watching another phase in the wildfire development of electronic calculators that soon are likely to take on major significance for management.

They got an inkling of that significance from a statement by Dr. C. C. Hurd, director of IBM's Electronic Data Processing Machines Div.:

"There is a tremendous intellectual movement afoot . . . on the part of mathematicians, engineers, methods men, production control men, and accounting men to establish better models for solving the decision-making problems in business, using mathematics and logic."

At the heart of this movement are the high-speed calculators.

• **Strides**—Only a little over a year ago, computers applied to business problems were still somewhat of a novelty. The two big manufacturers—IBM and Sperry Rand Corp.—were vying to announce each purchase of their machines by a company (BW—Jul. 24 '54, p58). Today, it's hard to keep up with the number of companies that are installing IBM's

machines, Sperry Rand's Univac—or machines built by Radio Corp. of America and other new entrants into the computer manufacturing field.

• **New Role**—What has happened in the few years since the first high-speed computer became available for industrial use is a lot more significant than the mere introduction of another business machine to company headquarters.

In fact, you can make out a pretty solid case that, when fully employed, data processing computers will have a fundamental effect on how business will be run in the future.

You see that in the interest displayed everywhere by top-level management. Last year, the American Management Assn. got record attendance at its first conference on the subject. This year, Harvard Business School in September is staging a two-day conference for some 150 senior officers of major corporations that are B-School associates. The subject: computers and what they mean to management.

I. Age of Computers

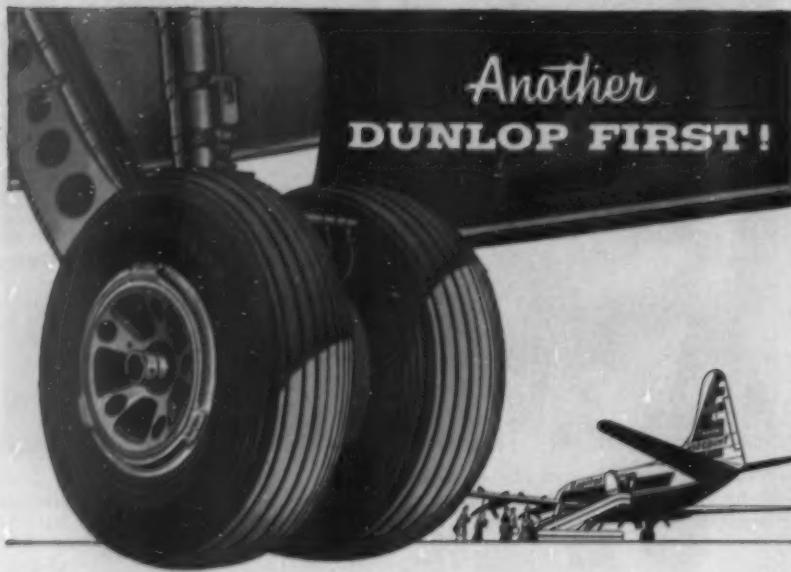
Right now, management in most companies is only vaguely aware of what these electronic data handling systems mean. Briefly, it knows that:

• The machines will go a long way toward reducing clerical costs.

• They will make information promptly available where previously long delays were unavoidable.

• They can reduce great quantities of information to meaningful terms.

• **Chairman Univac**—But the companies more sophisticated in the use of computers now realize that what they have grabbed hold of in these com-



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Capital **VISCOUNT**
AIRLINES

IS EQUIPPED WITH



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UNITS, WINDSHIELD WIPERS, CABIN SEALS,
FLEXIBLE HOSE AND ELECTRICAL
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For greater passenger comfort, Capital Airlines' new fleet of Turbo-Prop Viscounts rely on many Dunlop products, including Dunlop Tires, Wheels, Brakes and Dunlop's unique Maxaret Anti-Skid Units for safer landings and take-offs.

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Confidence in Dunlop Tires stems from an unsurpassed record of dependability.

Dunlop founded the pneumatic tire industry . . . Dunlop Tires hold every world's land speed record since 1929 . . . are the favored tire of millions of motorists the world over.

To enjoy greater tire safety, longer tire mileage, see your Dunlop Dealer for Dunlop Tubeless Tires with exclusive Tension-Free construction.

DUNLOP TIRE AND RUBBER CORPORATION
Factory and Executive Offices: Buffalo 5, New York

DUNLOP - *Founders of the Pneumatic Tire Industry*

puters conceivably could alter the face of management.

Mostly in jest, one corporation officer says, "The Univac operator will be the next chairman of the board."

• **Road Blocks**—For the past decade, management's key problem has been to create organizations fitted to the ever growing bigness of business. Up to now, the solution has been a constant attack against centralized authority and responsibility. Decisions once made at headquarters have been turned over to divisions, departments, sections.

The chief reason for decentralizing has been because it was impossible for central management (1) to gather data quickly enough to make use of it, and (2) to assess the data—the relationship of one fact to another—in time to get a decision back to where action must be taken.

Today, the companies considered the best managed are those where decentralization of authority has been built into the organization.

That may be changing now. If it does, one major cause will be the advent of electronic data processing systems. With such computers as the IBM machines and the Univacs, the necessity for decentralization of decision making in business may be ending (BW—Special Report, Aug. 15 '53, p158).

II. Data Centers

At this stage, you can find plenty of management men in disagreement.

But companies that decide to buy a big computer face the problem of how to fit it into the organization picture. They are costly, take up space, and require trained staffs. In addition, they have terrific capacities both for storing information and for processing it; that factor makes them uneconomical unless they are to be used for the maximum volume of work.

Sylvania Electric Products, Inc.—one of the companies facing the computer problem—took these factors into account, and decided to concentrate all its accounting activities in one spot. In a few weeks it will break ground at Camillus, N. Y., just outside Syracuse, for its Data Processing Center building. Next spring it will be ready for installation of a Univac.

• **Major Decision**—To an outsider, this may not seem significant. But for Sylvania it was a major decision. Its president and board chairman, Don G. Mitchell, is a vocal exponent of decentralization. The company has some 53 plants, warehouses, and sales offices across the country. As a result, Sylvania has been a highly decentralized operation—both physically and in the way it is managed.

The company insists that with the Univac installed, operating managers at



Mr. Vincent Sillitoe, Traffic Manager of Clarostat Mfg. Co., Inc., discloses

"How this guided missile gets there on time!"

". . . 5, 4, 3, 2, 1, fire . . . and a Clarostat product helps head the missile for an 'enemy' bomber!

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"With Air Express help, we can meet extremely exacting delivery specifications. Yet most shipments cost *less* than by any other air service. A 25 lb. shipment from Boston to Toledo, for instance, costs \$6.45. That's *5¢ less* than the next lowest air carrier—and the service can't be compared!"

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Since 1953's billion and a half dollars worth of manufacturing production for Florida [last official reported figures], hundreds of new industries have added amazingly to Florida's industrial output. Chemstrand's new \$85 million dollar plant alone has added greatly to Florida's industrial volume.

2,619 new residents move into Florida from other states each week, creating a growing manpower pool of many skills and a rapidly expanding market. The current rate of growth places Florida third among all states as more thousands come weekly to live better, live longer in Florida.

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FLORIDA

THE SUNSHINE STATE—LAND OF BETTER LIVING

plants and in the field will continue to hold their authority and responsibility. However, the data processing building—located at Camillus because that is the geographical center of Sylvania's operations—will tend to become the information nerve center of the company. According to Edward G. Dunn, manager of the center, "It will be the heart of our communications."

Sylvania's first use of its Univac will be an analysis of sales statistics. Next probably will be payroll accounting. If the center becomes as important as Dunn thinks it will, top operating vice-presidents of the major divisions may eventually want to be stationed there.

Sylvania has laid out the ultimate goal in a schematic drawing showing how the process starts with a customer's order containing pertinent data that can be fed over a Western Union leased wire system into the center at Camillus. There the computer will analyze and break down the information for accounts receivable, sales accounting entries, statistical analysis, inventory control and planning, and credit and collection information.

With that kind of high-speed communication, top management will have basic information as quickly as any sales or product manager.

• **Monsanto, Too**—Another company, also highly centralized, that has felt the impact of computers is Monsanto Chemical Co. Formerly, its divisional vice-presidents were located at the principal plant sites. Last year, partly as the result of a high-gear accounting and reporting system built around an IBM computer in St. Louis, the company was able to pull its divisional chiefs into headquarters (BW-Apr. 24 '54, p166).

III. Anti-Centralization

At this stage, though, only a rash man would try to predict just how computers will finally fit into company organizations. Experts in some companies refuse to accept the idea that decentralization of decision-making is likely.

M. L. Hurni, senior consultant for General Electric Co. and an expert on operations research and analysis, admits that at first blush big-scale computers seem to require a return to more centralized operations.

But his thesis is that as management studies the problem of using computers, it may very well decide that smaller machines in different units of the company's organization are a better answer.

As far as GE is concerned, he believes its present decentralized organization—about 100 departments each headed by a man with full operating and sales responsibility—won't be altered by the addition of data processing machines.



These men go out of their way to find bad reception

IT MIGHT SEEM ODD, but some men actually hunt for bad reception areas.

One day you might find them in hard-to-reach fringe sections—miles and miles from a TV station. The next day they will be in an area that has reported a unique type of interference. And they keep going until they have subjected their television receivers to every known type of interference.

On the side of the truck in which they travel, you'll see the inscription, "Zenith Radio Corporation." This rigorous testing in the field leads to methods of improving Zenith products.

It is just another way that Zenith assures its customers, both civilian and government, that they will be the first to receive engineering advancements in radionic products. And it is just another

step in the continuous research that Zenith has conducted during 36 years of specialization in radionics.

Among the many developments that have come from Zenith laboratories are such important television "firsts" as the Blaxide® tube, one-knob tuning, fringe lock circuit, spot-lite dial and gated beam sound stabilizer.

Another Zenith development designed to make television watching even more enjoyable is Phonevision®, which would make it possible for millions of viewers, by paying a small fee, to see outstanding events not now available on TV. After 25 years of laboratory and field work, Phonevision is ready now to open a whole new world of marvelous, un-tapped entertainment for 34,000,000 television set owners.

Such far-sighted research and experimentation brings you richer, more enjoyable hours of leisure at home. And it also adds to the security of your home and of your neighbors' homes, for Zenith's progressive engineering and precision manufacturing are called upon frequently by the government to turn out always-dependable, ever-better weapons of defense.

For full details on Phonevision, write to
the address below for a free booklet.

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In Management

Lions Oil's Merger With Monsanto Is a Marriage of Convenience

What has been rumored for the past several weeks is now confirmed; Lion Oil Co., an integrated oil company and also a sizable producer of petrochemicals, will be merged into Monsanto Chemical Co., big St. Louis chemical producer, unless stockholders object.

For Monsanto, a major consumer of petrochemicals, it means the acquisition of a company that can supply it with a hefty amount of nitrogenous chemicals, chiefly anhydrous ammonia.

For Lion Oil, the arrangement provides a ready outlet for its expanding chemical production—now roughly 50% of its business.

For businessmen, it is a major sign of the ever closer relationship between the petroleum and chemical fields.

The Monsanto-Lion deal, however, puts a twist on this relationship. In the past, the pattern has been for oil companies to move into the chemical field, either by purchase of smaller companies, or setting up their own petrochemical operations. This merger is one of the first instances of a chemical company taking over an oil firm—a pattern many think will not be an isolated case.

Financially, the deal will give Lion stockholders 14 shares of Monsanto \$2 par common stock for each share of their holdings. At present prices, Monsanto will be paying about \$200-million for Lion Oil.

Lion will be operated as a division of Monsanto, with headquarters in El Dorado, Ark. T. M. Martin, Lion president, will keep that title.

He and T. H. Barton, Lion chairman and one of Arkansas' leading industrialists, will become Monsanto directors.

You can find a number of reasons for Lion's agreeing to the merger, including what outsiders consider a lack of trained younger management.

But, probably more important, trade rumors have it that Lion—though highly successful as a chemical raw material producer—has an oversupply on hand.

"They [Monsanto] have the markets, we have the raw materials."

McGinnis Deal Undercuts Opposition To His Taking Over Boston & Maine

Last week, Patrick B. McGinnis, president of the New York, New Haven & Hartford RR, took a big step in lessening the opposition to his becoming president of a second New England road—the Boston & Maine.

Since April, the B&M has been controlled by friends of McGinnis who want him in the driver's seat. But there has been strong opposition.

McGinnis cut the ground out from under much of the McGinnis opposition by an agreement with the

Delaware & Hudson RR to keep B&M's heavy freight tonnage moving out of Massachusetts through the big D&H Mechanicville yards near Albany.

D&H previously opposed McGinnis as B&M president, figuring he would divert the B&M's freight over New Haven lines, which would cause considerable loss to D&H.

Another group that had sided with D&H, for roughly the same reasons, was the New England Governors' Committee on Public Transportation.

As the matter stands now, the Interstate Commerce Commission hearings on McGinnis' petition to manage both roads has been put off while ICC studies the proposed B&M-D&H traffic agreement. The postponement was interpreted in Boston as a McGinnis victory, though ICC disclaimed this. Observers say that the only thing that could block McGinnis is a strong drive to have a Massachusetts law prohibiting one man from running two roads at the same time applied against him. The Massachusetts Public Utilities Department says the law still is in force but it's questionable whether McGinnis would violate it by taking over the B&M presidency.

Meanwhile, McGinnis was having trouble closer to home as truculent New Haven commuter customers in Connecticut were increasing their harassment of the railroad. Their complaints are directed at McGinnis' plan to charge commuters for parking their autos in his station yards. Even as he drove the first spike in some new, easier-riding welded rail, the commuters' uproar gained new force by the addition of a new spokesman, Norman Cousins, editor of Saturday Review of Literature. In a letter to the ICC and the New York State Public Service Commission, Cousins complained: "Commuting on the New Haven has become a geographical job risk."

Yardstick for Measuring Foreman's Pay Differences

American Management Assn., in a recent survey of foreman's pay, uncovered some interesting comparisons in this traditionally sensitive salary area. For one thing, production foremen in durable goods industries are averaging \$500 more a year than their counterparts in non-durables. That's about a month's pay.

AMA found that the pay given to a production foreman, the commonest salary denominator, averaged \$6,241 in durable goods plants. In non-durables, the same job pays \$5,783.

The survey pointed up the consistently narrow salary ranges of foremen. The report says, "The maximums are approximately 1.4 times the minimums from function to function, industry to industry, and location to location."

These reasons were given for this consistency: top management's desire to maintain for foremen a salary differential over hourly rated employees, creating pressure from below; desire to maintain similar differentials between foreman's pay and top management, creating pressure from above; the maintenance of significant differentials between the various kinds of foremen's jobs (say between a production foreman and a general foreman) further constricting salary swings.

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In Washington

FHA Presses In on a New Apartment Scandal Group

The Federal Housing Administration this week moved in on another of those giant apartment house blocks that figured high in last year's FHA scandals. It sought to take control of Shirley-Duke Apartments, a 2,113-unit project in Alexandria, Va.

FHA Commissioner Norman P. Mason said the action was the fifth of its kind that the agency has undertaken so far—and he indicated that more will follow.

As mortgage holder, FHA's aim is to oust the Shirley-Duke board and install a new panel of its own choice. The agency says that among other things Shirley-Duke's sponsors violated their charter by taking dividends of almost \$1.8-million—giving them a return of \$313 for each \$1 of their own capital investment. They did this by draining off some of the difference between FHA's \$13.8-million mortgage loan and the project's actual construction cost of \$11.2-million.

Air Force Takes Biggest Bite Of Military Building Budget

A \$2-billion military construction program is headed for Pres. Eisenhower's desk.

As with other military appropriations, the Air Force gets the bulk of the money—slightly more than \$1-billion. The Army's share is \$486-million; the Navy's \$443-million.

Biggest single item in the program, both in dollars and in controversy, is \$79-million for the new Air Force Academy at Colorado Springs (BW-Jul.23'55,p54). The House Appropriations Committee had refused point blank to authorize a cent for the Academy until its modernistic plans—heavy on glass walls, light on brick and stone—were overhauled.

The Air Force complied, and this week the Senate Finance Committee approved the academy appropriation. House Appropriations Committee members indicated they, too, were pleased by the architectural adjustments.

Fresh Rush Orders Show Plain Concern for Red Air Power

The Air Force is giving fresh evidence of its concern over Russia's rapid airpower advances.

This week, the Pentagon stepped up production of two new supersonic jet fighters—the F-101 Voodoo, and the F-104 day fighter.

These are both snappy airplanes, but the F-104 is thought to be the sleekest. It's said to have been

test-flown at twice the speed of sound. The Air Force has told Lockheed Aircraft Corp., which makes the F-104, that it wants the planes earlier than first scheduled and it will buy more of them than it originally ordered.

The F-101, made by McDonnell Aircraft Corp., was designed originally as a long-range escort fighter, but the Air Force will now take delivery of all-weather interceptor versions of the plane. These can be rolled off the lines earlier.

These are the second and third accelerated production orders that the Air Force has sent out in recent weeks. The first was a hurry-up order sent to Boeing Airplane Co. for its B-52 Intercontinental jet bombers. Apparently all three orders stem directly from Russia's May Day aerial demonstration of impressive new bomber and fighter planes.

Was It Psychology—or Just A Lapse of Thought?

There's one thing certain in the aftermath of Geneva: Pres. Eisenhower got drenched at Washington's National Airport when he returned from the summit conferences.

What's not so certain is the reason why there were no umbrellas to shield the chief executive when he stepped from his plane for the formal welcoming ceremonies that went ahead despite a downpour.

One version has it that Vice-Pres. Richard M. Nixon flatly ruled out umbrellas at the airport, remembering that the umbrella was a symbol of appeasement in the days of Munich and British Prime Minister Neville Chamberlain. Nixon, so this version goes, thought that having Eisenhower photographed under an umbrella would be bad symbolism.

The State Dept. says this tale is all wet. State's Protocol Section gives its own explanation. It says it just didn't know that rain was forecast, and it put its "Plan A" into effect for the airport ceremony.

Plan A didn't call for official greeters to carry umbrellas for themselves or for the President.

"C's" Size Doesn't Matter When You're Too Far Left

A Communist is a Communist—no matter how you spell it. That's the semantic stand that a Justice Dept. attorney took this week when he defended the placing of three organizations on the attorney general's subversive list. He claimed the groups belong there, whether they're "little c" or "big C" Communists.

The word debate broke out at the first hearings called in challenge to the attorney general's subversive list by the Independent Socialist League, the Workers' Party, and the Socialist Youth League. These groups conceded they might be Communists "with a small 'c'."

But, said their counsel, they shouldn't be cited because the President's order specifies Communists with a capital "C." Attorney Joseph L. Rauh argued there's a

big distinction: Capital "C" refers to Marxist organizations controlled from Moscow; a small "c" group simply believes in the Communist theory of common ownership of production and distribution.

Justice Dept. attorney Oren H. Waterman granted the distinction, but he claimed that the government means to act against both groups. The fact that Communist is spelled with a capital "C" in the executive order is just an oversight—"a typographical error, if anything," said Waterman.

* * *

Taft Memorial May Open Way to Clutter Capitol

Congress this week earmarked space in the Capitol grounds for a memorial to the late Sen. Robert A. Taft—but it did so amid warnings that its move was a precedent that might open the grounds to as many as 200 such monuments.

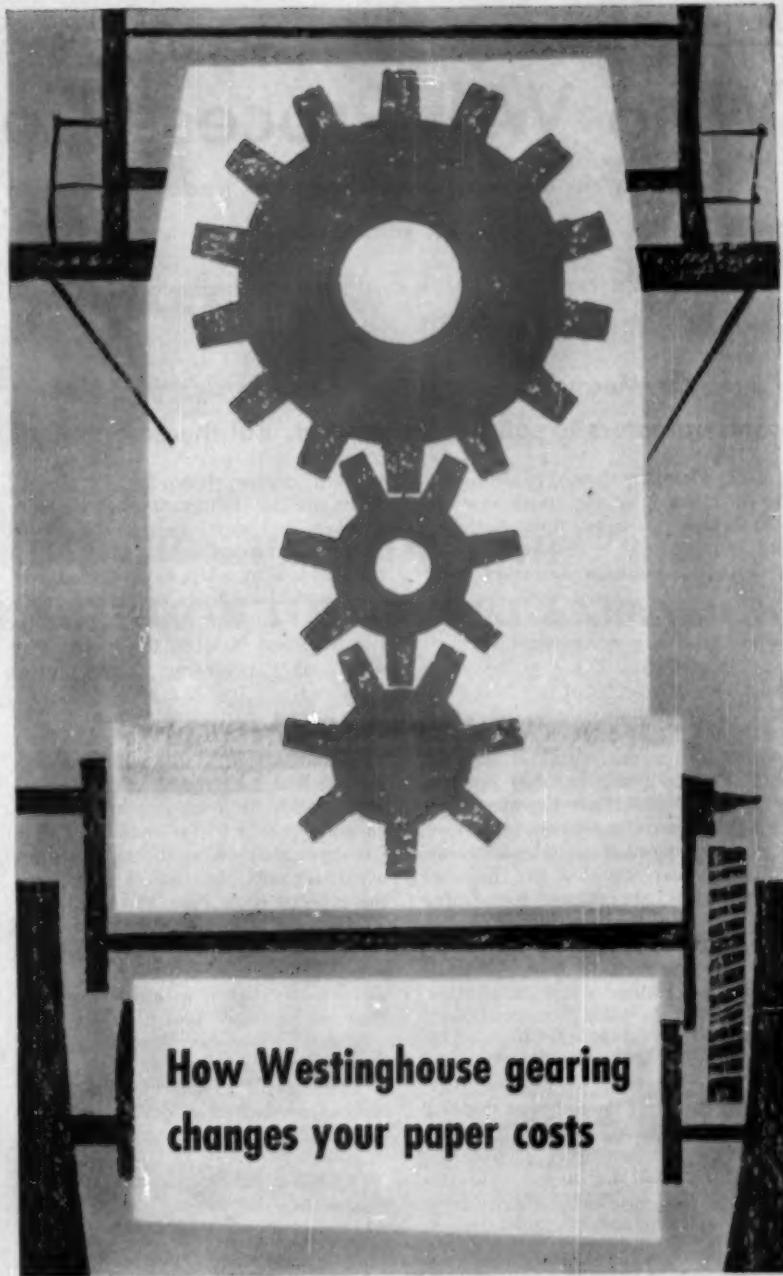
The memorial will be a 200-ft. marble bell tower. The Robert A. Taft Foundation will erect it. Building costs will be financed largely by public subscription, but after it's finished Congress will maintain it.

* * *

Tons of Information Speed Peace Atoms

The U.S. put another part of its atoms-for-peace plan into effect this week. It shipped comprehensive technical atomic energy libraries to 23 foreign countries. Each library contains hundreds of unclassified documents on nuclear energy and its peaceful applications. Each fills 250 ft. of shelf space, weighs half a ton, consists of 6,500 Atomic Energy Commission research reports, and is indexed by 55,000 cards.

The libraries' reports are contained in 5,000 microcards, 22 books, 34 bound volumes of scientific and technical texts on nuclear energy, and 11 volumes of abstracts from 50,000 reports and articles published here and abroad. They cover reactor technology, nuclear physics, and all available unclassified information on the use of the atom in chemistry, metallurgy, ceramics, electronics, biology, agriculture and health.



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Who Will Process Color Film?

- In an antitrust case, Eastman Kodak agreed to relax its hold on color film processing.
- Pathe Laboratories is first to challenge Eastman competitively on a national scale.
- Meanwhile, Eastman is encouraging a host of small operators to split up the market. But there are snags.

Next October, there's going to be a major change in the marketing and distribution of color film, both still and movie, used by amateur photographers in 10-million American households.

By terms of a consent settlement worked out with government antitrusters, Eastman Kodak Co. will have to make the first change it has ever made in its pricing policies on color film. And that's the signal for a rush of competitors into a field that till now has been virtually a one-company preserve.

• **Pathe in Field**—That Eastman is going to get some competition in amateur film processing—and some major competition at that—was clear late this week when Pathe Laboratories, Inc., subsidiary of Chesapeake Industries, announced that it was taking a headlong jump into the market.

Pathe has formed a new corporation, Pathecolor, Inc., with the intention of making it second in the business to Eastman itself with a newly equipped \$1-million processing lab in New York.

And Pathe isn't the only one that will get into the market.

Independent processors all over the country also will try to get into this growing business. The amateur color printing and processing business runs in the neighborhood of \$100-million a year.

• **Opening the Door**—The market situation is not unlike the one that resulted when Eastman and Technicolor, Inc., agreed to a similar consent decree five years ago, releasing basic patent rights on Technicolor movie film processes (BW-Mar.11'50,p25). Then, as now, other processors—including Pathe—moved into the field despite the apparently forbidding cost of equipment and the training of technicians. It was this break, in fact, that opened the door to Pathe, which will use the technical skills acquired in handling motion picture color film in building up its new amateur color film business.

According to the terms of the recent

consent decree (BW-Dec.25'54,p24), Eastman this fall must license photo finishers and developers to handle its Kodachrome transparency slides and its Kodacolor film. Up to now, Eastman has reserved exclusive processing rights on these two films, which account for not less than 90% of the entire color film market, according to government estimates.

A second major requirement of the consent decree is that Eastman must stop lumping into the retail price of the raw film a charge for processing—in other words, it must stop making the customer pay \$4.95 for a roll of 35 mm. (36 exposures)—Kodachrome—a price which includes the cost of developing the exposed film. Now the retail price will run about half that figure.

The tie-in pricing scheme is the hub of Eastman's marketing setup, which varies slightly with the two major kinds of Eastman color film:

Kodachrome—This is so-called "reversal" film, one of the two basic types of color film. When you have your exposed Kodachrome developed, what you get back is a positive transparency or slide.

Producing an opaque print requires still another step, through an independent processor. Eastman was never a major factor in this market.

You buy the film from your retailer—druggist, photo shop, department store—and when you have exposed the roll, you send it directly back to Eastman in a special bag that comes with the roll. It is developed at one of Eastman's eight developing plants and sent back to you. Amateur movie color film is handled the same way.

About Oct. 1, 1955, for Kodachrome still transparencies, and after approximately July 1, 1956, for Kodachrome movies, the system will work like this:

You will pay the retailer only for the roll of film, not including the processing. After you shoot the roll, you will take it back to your local dealer, who is free to send it to a processor of his

choosing, or you can send it direct to any available processor. This is the opening wedge for the new hopefuls who hope to do battle with Eastman.

Kodacolor.—This is the other basic type of film. It involves a negative-positive process that produces a finished print on opaque paper.

In this case, Eastman has kept a hammerlock on the whole process—right through the prints—which are made in only one plant, in Rochester, N. Y.

The present difference between the systems of distribution for the two films lies in the fact that the amateur photographer doesn't send his exposed Kodacolor back to Eastman. Rather, he takes it to the retailer, who sends it to Rochester.

The price of the film includes only the cost of processing the negatives. You order the prints through the retailer, and pay him.

After about Dec. 1, 1955, there will be no processing charge included in the price of the raw Kodacolor film; when the amateur brings the exposed film back to the dealer, the latter will send it to any processor who can get the business.

• **Market Share**—Kodacolor and Kodachrome account for 90% of the color film market. The rest is split among various films. General Aniline & Film Corp. has part of the market with its Anscochrome and Plenicolor film. Foreign color film is also on the market. And Eastman has another line of film called Ektachrome and Ektacolor. All of these, including the Ektacolor line, are processed by any independent processor under license; no processing cost is included in the retail price.

• **Double Standard**—There are several reasons why Eastman never applied its familiar tie-in pricing arrangements to Ektacolor. One reason it gives is that this newer film doesn't require such tricky and complicated processes as do the other two. Eastman has always said it has not licensed independents to handle Kodacolor and Kodachrome because of the high degree of skill needed.

There was another reason, too. When Eastman expanded its Ektacolor line from a film for professional use only to a popular amateur line, the Dept. of Justice—and Eastman admits this—was already looking over the company's shoulder at its pricing and licensing policies.

By terms of the consent decree, Eastman must release technical informa-



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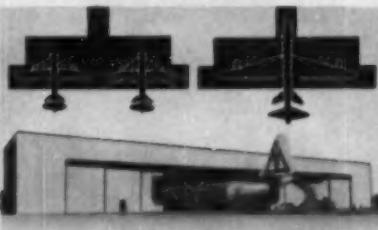
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tion on its Kodachrome and Kodacolor processes. And it must, by 1957, limit itself to 50% of the total color film processing business.

Eastman's potential competitors, the independent finishers, say Eastman has bent over backward in helping them set up their new labs.

Trade observers think it is part of Eastman's strategy to help small regional independents get off to a good start.

This way, the other 50% of the color film processing business would be evenly split up among a comparatively large number of processors.

• **The Cost**—Many small finishers and developers haven't enough money or technical knowledge to go into these processes.

Eastman thinks not more than 300 or 400 will go into Kodacolor to start, and even fewer into the more complicated and expensive Kodachrome process. So Eastman is doing all it can to encourage as many qualified small independents as possible.

Eastman is offering smaller operators some newly designed color printing and developing equipment. Eastman says it will take a minimum of about \$50,000 worth of equipment to go into business.

For fully automatic, continuous equipment, which some in the trade say is more efficient and gives better color pictures, the minimum cost of equipment to handle either Kodachrome or Kodacolor would come to about \$250,000.

Eastman will do almost no new promotion among dealers, relying on its own thousands of retail outlets and its established lines of film distribution to keep on bringing it a good chunk of the color processing business.

• **Millions of Squawks**—A headache for Eastman will be the complicated changes in how the film is routed to and from the processor. One Eastman spokesman shakes his head when he thinks of these changes.

"It'll mean 50-million letters of complaints," he says. "People will inevitably keep on sending their Kodachrome rolls to us for a while, and we can't even take the chance of sending them back undeveloped—people might think their rolls had been developed, might open them and ruin the pictures. For a while, we'll have to write each person and get his permission to develop his film and send it back to his dealer."

Eastman, proud of its heretofore secret processing techniques, is also worried about inexperienced craftsmanship on the part of independents coming into the Kodachrome and Kodacolor field for the first time.

• **Market Limits**—Eastman sees certain built-in limitations to the color

film market. Consumer disposable income, for one thing—color shots cost 50¢ or more apiece when you add up all the charges. And Eastman doesn't see the retail price coming down with the advent of new competition, even though dealer discounts run up as high as 40%. At least not right away.

Partly because of the cost factor, Eastman is still relying on black and white as the backbone of its film business. "Color will never replace it", says one executive. And in the color field itself, Eastman expects its own Ekta line to win a sizable bit of the potential market from Kodachrome and Kodacolor.

Pathe, on the other hand, is banking on Kodachrome and Kodacolor as the best processes, and it thinks the color film processing business has a good chance to expand. Pathe decided to go into the field in the first place on the basis of extensive market research.

The company's studies show that about 30-million U.S. families take pictures, and about one-third of these take some color shots. This represents a vast potential market, Pathecolors, Pres. James L. Wolcott points out, and Pathe estimates it will continue to grow at a yearly rate of at least 5% over the next three years.

Pathecolor has hired a marketing expert, P. Bernard Nortman, as general manager of marketing.

• **Pathe's Plan**—Pathe will appeal to this market on the basis of its name and reputation in movie work.

Then, too, Pathe will woo dealers on every level—other independent finishers and developers who aren't going Kodachrome and Kodacolor work themselves, wholesalers, photo supply shops, drug stores, retail chains, and the like.

For a while, at least, Pathe won't cut the retail price its processing. But it says it will give dealers discounts at least equal to—and probably better than—Eastman.

Pathe says it has already lined up enough customers to keep its New York lab rolling out film at more than the break-even point.

Pathe counts on its New York plant to bring in at least 5% of the color film processing market.

Another lab is planned in California, and still other sites are being considered.

• **The Choice**—In the market strategy battle between the two companies, Eastman thinks all the local finishers who can get into the business of processing Kodachrome and Kodacolor would rather earn that profit themselves than give it to Pathe—or Eastman.

But Pathe feels the dealers can earn just as much, without production headaches, by farming their processing out to Pathe labs.

Broadens grader working capacity

Now you can get Allison TORQMATIC Converters in the fast-running, smoother-operating Austin-Western Super 88 Power Grader.

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range—broadens the engine's working ability by increasing engine torque $2\frac{1}{2}$ times—holds power to the load at all times.

And you'll get a grader that costs less to maintain, too. The TORQMATIC Converter provides a shock-absorbing hydraulic cushion that protects grader components from shock damage—boosts engine life by preventing engine luging and stalling.

Allison's 200-300 Series TORQMATIC Converters in the Austin-Western Graders carry their own oil supply—have a simple dip stick to check oil

level. They're the first converter packages in the 40-150 horsepower range on the market with an integral oil cooler, sump and charging pump.

You can get Allison TORQMATIC Converters in a wide range of models for both gasoline or Diesel engines from 40 to 400 horsepower—TORQMATIC Transmissions for applications up to 300 horsepower. Ask your equipment manufacturer or dealer about Allison TORQMATIC DRIVES next time you buy or write for more information to Allison Division of General Motors, Box 894B, Indianapolis 6, Indiana.



In Marketing

Comeback in Hardgoods Sales Leads Department Store Gains

Department stores are making a significant comeback in the sale of appliances and other hardgoods.

The latest figures show that this is the area in which the big stores are making their greatest sales gains this year. Department store sales over-all, according to Federal Reserve Board tallies, were running 6% ahead of last year from Jan. 1 through July 16. A breakdown of sales by departments shows that up through the first five months of the year, the departments dealing in durables contributed the greatest proportion of this gain.

Whereas women's apparel was up only 3% in sales volume, and boys' and men's apparel were up 6%, the home furnishings departments were up a thumping 11%. Even more surprising, sales of major appliances were up no less than 33%.

This, of course, is a sharp turnaround, and it may foreshadow a new era for the nation's department stores.

One of the major developments in postwar merchandising was the department stores' inability to cope with the fast-growing appliance market. They suffered a historical disadvantage in the sense that traditionally department stores have been mainly purveyors of apparel and other softgoods. Thus, in an era when the play has gone to hardgoods, they had two strikes against them from the start. There were also other problems. As the Federal Reserve Bank of Chicago comments.

"The emergence of discount houses, the reduction in product servicing required of hardgoods dealers, the widespread practice of allowing sizable trade-ins on old appliances, and the shift in buying to suburbs and outlying city areas all have tended to favor specialty outlets at the expense of department stores."

But recently a change in department store thinking has taken place. They're competing—vigorously—for the appliance market, trading cut for cut with the discounters. Just two examples of this can be seen in Rich's in Atlanta (BW-Jul. 23'55, p90) and the Boston Store in Milwaukee (below). The result is a better rate of gain for department stores than for appliance stores, which are only up 6% in volume this year over last.

Court Enforcement of "Fair Trade" Tends To All-or-Nothing Basis

There's a new legal line developing on resale price maintenance. The courts seem to be favoring the view that a manufacturer can't enforce his "fair trade" price structure against one store if he can't make it work among his dealers generally.

Last week in Milwaukee, Federal Judge Robert E. Tehan denied General Electric Co. the injunction it was seeking to restrain the Boston Store in that city from

advertising and selling GE small appliances at below fair trade prices (BW-Jun. 25'55, p62). Judge Tehan's reason: The company did not "diligently enforce" its fair trade program, not only in the Milwaukee area, but generally.

This reasoning follows that of the case of GE vs. R. H. Macy several years ago (BW-Jan. 27'51, p56). In the earlier case, GE got its injunction, but the court warned that it was up to a manufacturer to police its fair trade contracts if any one contract was to be valid.

Anti-fair traders have leaped at this argument, which promises to become a major weapon in their hands.

GE will appeal the decision. It spent \$500,000 last year on enforcing fair trade, said R. C. Walton, its fair trade chief, and upped the 1955 budget to \$750,000.

35 British Films Bought

By ABC for Video Showing

More motion pictures for TV are on the way. American Broadcasting Co. has just signed an exclusive long-term contract for 35 top feature British films with General Film Distributors, Ltd., affiliate of J. Arthur Rank and Fine Arts Enterprises. The package includes such shows as *Brief Encounter*, *Caesar & Cleopatra*, *Great Expectations*. ABC-TV will show them Sunday nights this fall.

This deal comes hard on the heels of General Tire & Rubber Co.'s purchase of RKO Radio Pictures, Inc. (BW-Jul. 23'55, p32). National Broadcasting Co. recently paid \$200,000 for a Korda picture. Columbia Broadcasting System is getting Orson Welles to make several long pictures.

Such activity once again raises the question: Are motion picture producers going to loosen up to let TV get their products?

The experts think the motion picture industry won't be in a hurry. Profits from theaters are doing fine right now. Every year the TV industry raises its bids for film. So why be in a hurry to sell? Furthermore, if all studios let down the barriers at once, the price would crash. Chances are better for a gradual leakage than for any sudden opening of doors.

ABC hopes to use its new films (some have been shown in theaters, some haven't) to boost its rating against the tough Sunday night competition: NBC with its *Colgate Variety Hour*, CBS with its *Toast of the Town*. These two shows start at 8; ABC's films start running at 7:30. ABC hopes that by the time 8 o'clock comes around, its audience will stick with it.

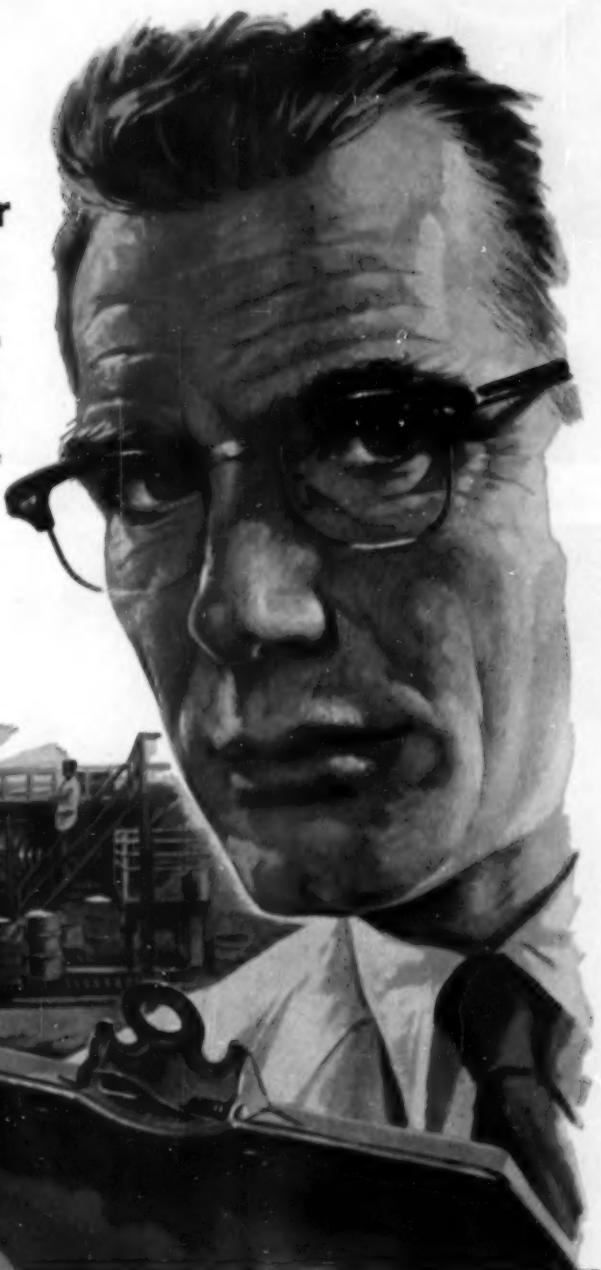
Marketing Briefs

Mennen's for women is a new cosmetic venture for the Mennen Co. Mennen is coming out with a ladies Skin Magic beauty lotion in September, for \$1 per squeeze bottle.

Kroger food chain has added another link: This time the 28-unit Childs Food Stores of Jacksonville Tex. Childs operates in Texas, Louisiana, and Arkansas, wholesale sales to Piggly Wiggly stores.

Catalysts made to order

Every day Davison produces hundreds of tons of synthetic fluid cracking catalysts. At the same time it also turns out small batches of specialty catalysts in granular, pelleted, powdered, spherical and extruded forms to meet customer's specific needs. These catalysts contain such typical active agents as aluminum, bismuth, chromium, cobalt, copper, magnesium, manganese, mercury, molybdenum, nickel, palladium, platinum, silver and vanadium. Being the world's largest producer of synthetic fluid cracking catalysts, and one of the largest producers of specialty catalysts, puts Davison in the position to meet your most exacting requirements in the growing field of catalysts. Why not have these great facilities work on your catalyst problem? Davison will create and produce original catalysts or manufacture to your prescription, in small quantities or large.



Four Davison plants, with their extensive and diverse equipment, are now producing catalysts, with additional plants in the early stages of construction both in the United States and Canada.

Qualified Davison Representatives would like to have the opportunity of working with you. No obligation is incurred when you write, wire or phone Davison for help.

Progress Through Chemistry

DAVISON CHEMICAL COMPANY

Division of W. R. Grace & Co.

Baltimore 3, Maryland

Sales Offices: Chicago, Ill.; Houston, Texas; New York, N. Y.; Baltimore, Md.
Producers of: Catalysts, Inorganic Acids, Superphosphates, Triple Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole producers of DAVCO[®] Granulated Fertilizers.



When industry began using a-c electric motors built to a new design, unexpected benefits resulted. A blower manufacturer cut shipping costs \$1157, an oil well operator saved \$26 on each motor he bought, a machine tool builder boosted his machine's capacity 50%. No wonder 80% of industry has already made . . .

The Big 'Motor Switchover'

A series by ARTHUR F. VINSON, V. P.—Manufacturing, General Electric Co.

"Far easier to install" say users everywhere. This 230-pound, 10-hp G-E motor is 39% lighter than the one it replaces.

Of all 1 to 30 horsepower electric motors sold by General Electric, today more than 80% are built to a radical new design introduced just 18 months ago. Every day these "new standard" motors, called the Tri-Clad® '55' by G.E., gain more and more converts as motor users discover the many advantages to them.

Cuts Shipping Costs

The new, lighter motors have made some eye-opening savings possible. As a result of changing over, sales manager E. W. Petersen of American Blower Corp., Detroit, Mich., reports: "Saved us \$1157 in the past 11 months in transportation costs alone. And this doesn't include savings made from routine shipments between American Blower plants."



Other savings cropped up. Ross McCollum, an oil operator in the Taft and Midway Fields of Kern County, California, discovered he could save \$26 each on the 10 or 12 electric motors he buys a year. Because new motors are more completely protected, he now uses a standard dripproof motor, instead of the more expensive splashproof design.

50% More Power

The smaller size of G.E.'s new Tri-Clad '55' motor solved a difficult problem for Roger Pyne, engineering vice president of the Van Norman Company, Springfield, Mass. Space limitations on the company's new centerless grinder permitted the use of only a 5-hp motor. "By switching to the new-style motor, we were able to go to a 7½-hp unit," reports Mr. Pyne. "This 50% increase in power boosted our machine's capacity."

Increased sales and customer satisfaction are noted by many independent motor distributors. M. G. Bickford, president of Tri-State Electric Motors Inc., of Troy, N. Y., says, "Our customers like the modern appearance and ease of handling of the Tri-Clad '55' motor. And frankly, I can't remember when we've had a service complaint on the new design."

10 Years, No Greasing

Many other time and money saving benefits turned up. G.E.'s Tri-Clad '55' motor, for example, has a new bearing system which uses a new synthesized grease. So efficient is this lubricating system that in normal service a 2-hp Tri-Clad '55' motor will run up to 10 years without greasing. Even then, there is a provision for re-greasing on the job.

The feelings of the majority of motor buyers were summed up by J. S. Devokaitis, purchasing agent of The New Britain Machine Co., New Britain, Conn., when he commented, "We took a good look at your new motor and right away we saw a lot of benefits. For one thing, we were interested in its better performance and higher full load speeds. We think it will cut down on maintenance needed. We like its modern appearance. Needless to say, we're offering the new design as fast as possible."

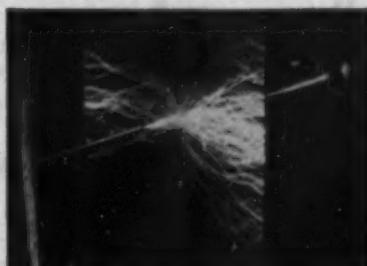
Not all companies, however, have taken advantage of the motor switch-over. Some are missing out on the many benefits available only with electric motors built to the new standards.

What is your company's policy? Are you investing in progress or obsolescence? General Electric Company, Schenectady 5, N. Y.

64-29



Light bulb demonstration illustrates how the wrap-around enclosure of the new G-E motor (left) gives far greater protection against water, dust and dirt.

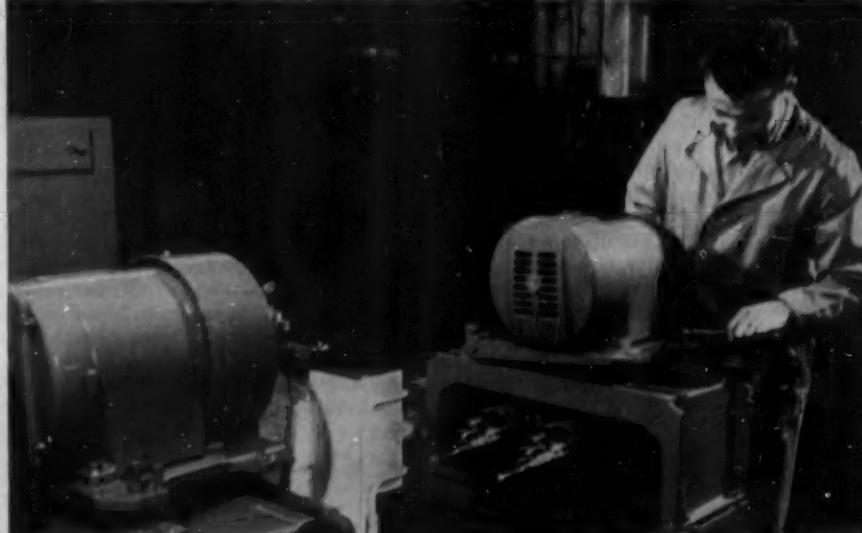


Mylar† insulation (top) in the new G-E motor withstands three times as much voltage as the old (bottom).



"More compact motor" allows Van Norman Co. to put a 7½ instead of a 5-hp motor on their new grinder.

Clean functional design of Tri-Clad '55' motor complements modern appearance of The New Britain Machine Co.'s new double-end precision boring machine.



Progress Is Our Most Important Product

GENERAL ELECTRIC

*Reg. trade-mark of General Electric Co.

†Du Pont trade-mark.

RESEARCH

A theory developed to deal with a situation like this...

A quantity of information in the form of . . .

Sound or Pictures



Moves over channels like this . . .

Telephone
Telegraph
Radio
Television
Facsimile
Radar

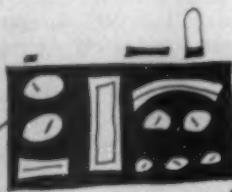


Turns out to be just the thing for engineering problems like this . . .

How can a man dictate a letter . . .



Into an electronic computer system . . .



And provides a new foundation for theories of human behavior . . .

How large a collection of facts and factors . . .



Can be presented to an executive . . .



Information: Now It's the Realm

The white-jacketed men around the nation's research laboratories are delving deeper these days into a new and highly mathematical brand of science. It's a science that usually travels under the banner of Information Theory. Businessmen are already meeting some of its aspects—in data processing and office automation. It's all something quite new—a postwar movement.

It was developed, as the sketches above suggest, to improve existing mechanical communication systems and to provide a foundation for developing new systems. Despite its youth, Information Theory has already infiltrated

into such widely scattered fields as statistics, physics, biology, physiology, and psychology. In fact, it's in the area of the social sciences, where it is shedding light on the problems of how and why we behave as we do, that Information Theory is approaching the pinnacles inhabited by Newton's Theory of Gravitation and Einstein's Theory of Relativity.

• **Fundamental Field**—The commodity it deals with is information. You begin to get an inkling of how basic the science is when you consider the fundamental part that information plays in our daily lives. There's information in

the wail of a baby wanting its bottle. There's information in a love letter; in the boss's grunt of satisfaction or dissatisfaction; the nervous system that brings about the movement of the hand that's picking up a gin and tonic, or wiping the brow in this hot weather.

At the moment, Information Theory is a highly theoretical science that deals with ideal methods of passing information from person to person and place to place. It involves the use of complex mathematics often beyond the ken of the average engineer. Clearly it's a tool for the advanced thinker rather than a formula for cranking out new

And emerges as ...

The input
plus noise added by
the channel
minus lost information



To have the machine
type out his words?



To make the best
decision on a problem?



©BUSINESS WEEK

of Theorists

products. But it's through the long hair's calculations that new areas of the unknown around us are conquered. It took almost 50 years for engineers to catch up with the implications of Einstein's Theory. With all the feverish activity now going on in research laboratories that are concerned with communication in its broadest sense, Information Theory's schedule may show faster times between stations.

I. Wartime Birth

Originator of Information Theory may have been Prof. Norbert Wiener of

Massachusetts Institute of Technology, one of the great mathematicians of our time. Wiener first described the statistical nature of communications in a classified War Department paper during World War II. In 1948, he wrote a book called *Cybernetics* that expanded on his basic ideas. About the same time, Dr. Claude E. Shannon of Bell Telephone Laboratories, in a now classic work called *A Mathematical Theory of Communication*, worked out an information yardstick for electrical engineers. Since both Wiener and Shannon made tremendous contributions, it's probably fair to call them co-originators.

• **Their Goal**—What they were trying to do was to describe what happens when we communicate by telephone, radio, television, radar, or through other mechanical means. They broke down these systems into fundamentals, decided that all communications have three parts:

• **Source:** This can be the person who talks into a telephone, writes a telegram, stands in front of a TV camera. It can also be an aircraft that reflects the probing fingers of radar, or an instrument that transmits an electrical reading. In all these cases a message is sent out.

• **Channel:** The sound or the picture that forms the message travels over a distance in some manner—through a pair of wires, a coaxial cable, a band of radio frequencies; through sounds in the air or marks on a piece of paper. Whichever way it might be, a message is transmitted.

• **Recipient.** When the message comes out of the channel, someone or something must be there to receive it and understand it—otherwise there's no communication. The recipient has to have some prior understanding with the source: A man can't make himself understood in a country where he doesn't know the language; nor can a telephone pick up the radar image of an airplane.

These definitions add up to a kind of basic physics of communications, something that nobody had bothered about during the last 100 years. Morse built his telegraph, Bell his telephone, Marconi his radiotelegraph, Fleming his rectifier tube for radio, and Zworykin his electronic scanner for television after mulling over their problems using an empirical approach. They did not worry about the commodity they were dealing with—information. Nor did they get into comparisons of how this amorphous stuff is handled by different communications systems.

But now, 110 years after Morse designed his telegraph, we are getting around to the question: Just what is information?

There are plenty of examples: it's information when your mother-in-law calls to announce an extended visit; when a telegram arrives saying "go ahead with the merger plans"; when you see on your television screen the delegates gathered at Geneva. But how can you relate these chunks of information through a common denominator? You can't measure information in quarts, or feet, or revolutions per second. Quite obviously you need a new yardstick.

In their deep thinking on the subject, Wiener and Shannon decided that the real key to the whole matter of information lies in the agreement that exists between source and recipient and makes communication possible in

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B&O TOFCEE Service offers speedy, worry-free, competitively priced trailer haul and delivery with the dependability proved by Sentinel Service and Time-Saver Service. Try TOFCEE! Ask our man!



Baltimore & Ohio Railroad

Those who know use the B&O!

the first place. The new theory differs from all previous attempts to apply science to communications engineering by taking into account this prior knowledge we possess about the message to be transmitted.

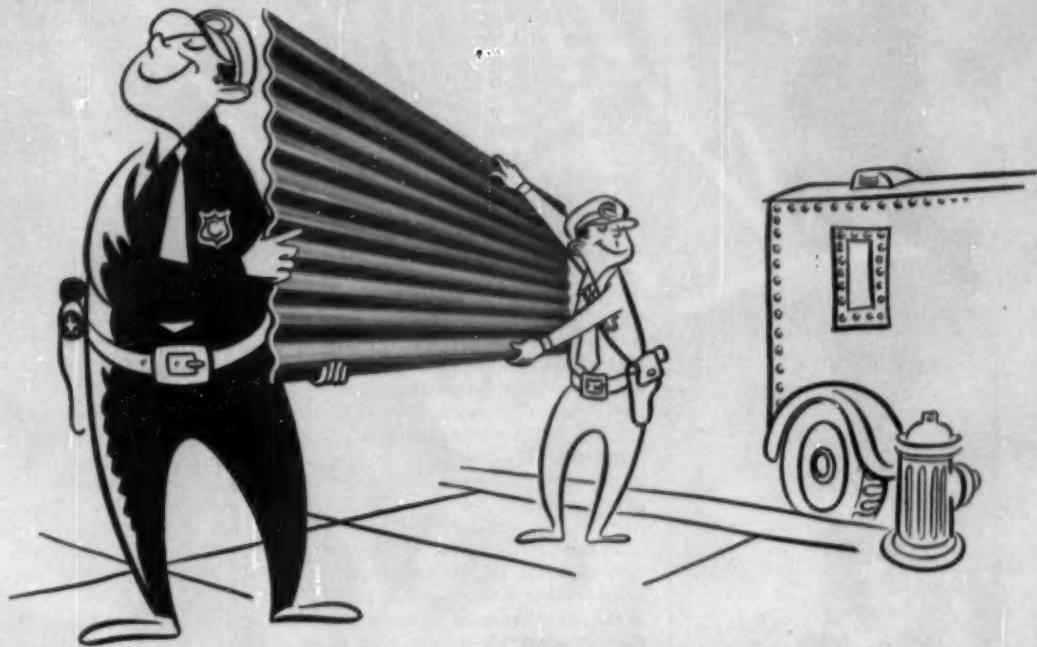
• **Numbers Game**—It's at this point that mathematical probability gets into the act. There are an infinite number of messages you might receive. But knowing it's the mother-in-law immediately reduces the number of alternatives. Knowing the type of thing she might say reduces the probabilities still further. And the actual information she conveys depends on how probable it is to you. The fact that she had been arrested for picking pockets would convey more information than the fact that she was arriving for her annual visit on Thursday next. That she was involved in an auto crash in Los Angeles would convey a lot of information if you thought she was absorbing the sunshine at Cape Cod—because it would be unexpected news.

In the sense that Wiener and Shannon use the term, information is practically synonymous with unpredictable news. The least common denominator becomes, in their final analysis, the choice between these two equally probable alternatives. In order to choose between these two equally probable alternatives, you need just one unit of information. Wiener and Shannon call this unit the "bit" (derived from the mathematician's "binary digit"). For example, if you have to decide whether a man is more than 6 ft. tall or less than 6 ft. tall, all you need to make the decision is one bit of information.

Two bits of information enable you to decide among four equally likely alternatives. Three bits enable you to decide among eight equally likely alternatives. The general rule is that every time the number of equally likely alternatives is doubled, you need at least one more bit of information.

• **Beating Charges**—But in communications you are not always dealing with equally probable alternatives. Language is loaded with repetition and assumption. In the interest of efficiency, it's possible to eliminate much of the redundancy and still move the same amount of information from source to sender. You might normally send a long telegram to your wife telling her to meet you at the railroad station on your return from a business trip. But if you're running way over your budget and have to count pennies, if she knows you're traveling by train, knows the evening you're due back, and knows that she's supposed to meet you, all the needed information might be compressed into the two words "Arrive eight."

This doesn't mean that redundancy



Like Money in the Bank . . .

Careystone 4.2 Corrugated saves time and cost in building erection and maintenance!

Careystone comes in big $3\frac{1}{4}' \times 12''$ * sheets that cover fast—is easily applied vertically or horizontally over wood or steel framing. Used for exterior siding and roofing, Careystone cuts erection costs to the bone!

Careystone is impervious to rot, rust, corrosion, termites, rodents. Won't burn. Never needs paint or preservative treatment—actually gains strength with exposure to

weather! Thus it never drains a penny from your maintenance budget.

If there's a new plant in your plans, or additions to those you have, take advantage of 4.2 Careystone. Ask your Carey Industrial Sales Engineer for the fact-filled Careystone Corrugated manual, or write us. The Philip Carey Mfg. Company, Dept. BW-7, Cincinnati 15, Ohio.

*Also in any length under 12' in 6" increments.

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Carey diversified products and services for industry, farm and home since 1873

Plants: Cincinnati and Middletown, O.; Wilmington, Ill.; Memphis, Tenn.; Houston, Texas; Perth Amboy, N. J.; Plymouth Meeting, Pa.; Lenoxville, P. Q.; East Broughton, P. Q.; Research Center: Cincinnati, Ohio. Subsidiary Companies: Quebec Asbestos Corp., Ltd.; The Philip Carey Co., Ltd.

Carey Asphalt Plank takes heavy traffic beating without wear on Harlem River span or Triborough Bridge. Widely used for bridge floors, this plank meets all requirements of American Assn. State Highway Officials, Specification M 46-38.



Patented Carey Enamel-clad process used to cover worn-out slate roofs at White Motor Company's big truck plant, Cleveland, Ohio. Carey makes a complete line of built-up roofing, roof coatings, roof felts. Offers free Roof-Check service.



Carey 85% Magnesia Insulations conserve heat, save fuel, help control processing in thousands of plants. Illustrated: "Worm's eye view" of Carey-insulated live and exhaust steam lines at Gulf refinery in Port Arthur, Texas.

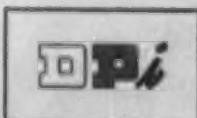




this is **A**xerophthol

That's from the Greek and means "the-stuff-without-which-your-eyeballs-will-dry-up." In two other words, vitamin A. We make it.

If you've been toying with the idea of putting it in a drug or food product, you ought to get in touch with us... *Distillation Products Industries, Rochester 3, N.Y.*



Distillation Products Industries
is a division of **Eastman Kodak Company**

in communications is useless. Often it's necessary to repeat information several times to insure complete understanding. But it's in this area that Information Theory makes its great contribution. It gives the scientist a fresh perspective from which he can view communications problems. It suggests what factors may be critical in communications and how broad the range of possibilities may be.

II. Sights on the Future

At first, communications engineers thought that Information Theory was merely a method by which all the currently used inventions and designs were confirmed as substantially correct. But now they've realized that the theory can do much more than this; that it can speed development of new communications systems such as the phonetic typewriter shown in the sketch on page 58.

When information is sent over a clear channel, the message that's put in at one end and the one that's taken out at the other are more or less related, but they're never identical. The input is changed in transmission. If the changes are random, communications engineers talk about "noise" in the channel.

To Information Theorists, noise is any distortion in the message that passes from sender to receiver. It can be the garbling of a telegraph message, misunderstanding caused by grammar or spelling in a letter, "snow" on a television screen. If there were no noise in a circuit, transmission would be perfect. In most of the work on new communications systems today, scientists start with the ideal system that Information Theory suggests. Then they try to approach this ideal on the practical level where noise is always present.

• **Filling Gaps**—It is possible to communicate—and communicate clearly—despite noise. Everyone has had a "bad," noisy connection on the telephone. If you know ahead of time what information a caller on such a connection might be conveying, you can follow easily even though noise might blot out parts of what he is saying. But, if the caller passes along a slew of unpredictable statistics, the noise would be a great handicap and he might have to repeat numbers several times. The amount of information he was trying to convey in the first call would be small, in the second call it would be large.

The theory doesn't suggest that you shouldn't try to convey a lot of information. That would be foolish. It suggests rather that the amount of information that can be conveyed is limited by the channel on which it's sent. If a message carries a lot of information, it will use up a lot of the

available channel. If it conveys only a small amount of information it will not take up so much space in the channel.

- **Basic Aim**—The goal, then, in devising new equipment or making better use of what is presently available is to strip messages of their easily predictable parts—and so to make the fullest use of each channel.

Take the case of a television picture. From second to second the bulk, perhaps 99%, of the picture on your screen remains the same. It takes some 40-million bits of information transmitted every second to establish that television picture. But if only the unpredictable parts of the picture were transmitted and a device were built to carry the predictable parts over from second to second, feeding in only the changes, the amount of information transmitted might be reduced 99%. Such a reduction in redundancy would make available a lot more channel space for other TV pictures. In fact, it might make transoceanic TV a practical proposition—with all its social and business implications.

- **Power of Money**—Basically, it's an economic force that's behind the drive to compress messages so that more can travel through the same channel. Right now, the most inexpensive item in communications is the allocation of channel space. That's why it's now practical to build expensive terminal equipment if it reduces the space a message requires in a channel.

- **Dreams**—The Information Theorist, like everyone else, likes to do some blue-sky dreaming now and again. He predicts that if radio messages were stripped of redundancy, repetition, and assumption, everyone might have his own walkie-talkie radio operating on its own thread-like wave length. True, your grandmother might sound exactly like basso Ezio Pinza, but you'd get the information and it would probably be inexpensive. A telephone call to San Francisco from New York might cost only 10¢.

III. The Human Channel

Communication engineers usually have two human beings in their idealized communications systems, a source and a recipient. Between them is equipment that provides the channel. The social scientist, particularly the psychologist, who has also been intrigued by Information Theory, has two sets of equipment—one to generate stimuli, the other to record responses. Between them is a single human being who provides the channel.

Psychologists relate stimulus and reaction in much the same way that communications engineers relate input and output. So the yardstick of the communications engineer is beginning



Inspiration from a spider...

The spider provided the idea of a strong weight-carrying web. The engineer applied it to bridges.

But he still wasn't satisfied. And so you see bridges being built today that are a far cry from those inspired by the spider. Gone are the old massive look, the expensive time-consuming construction, the narrow roadways and limited loads.

Using new materials, new construction methods, new developments made possible by new research into alloys and metal fabri-

cation, the engineer has come up with new designs, entirely new kinds of bridges such as the continuous plate girder type. They are bridges that take less time and money to build . . . bridges that are stronger, carry heavier loads.

These better, more economical bridges permit the engineer to design and build highways for today's traffic . . . express highways that let traffic move safely and swiftly . . . without stop lights, without cross traffic . . . across cities, across states . . . eventually across the nation.



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INSULATION



IN THE MODERN DINING ROOM of the Hillcrest Country Club, Oklahoma City, Okla., sound is kept under control with Sprayed "Limpet" Asbestos. Sprayed on the ceiling, and painted a dark green, the insulation completes the attractiveness of the room. Architects: Hudgins-Thompson-Ball & Associates. General Contractor: E. V. Cox Construction Co. Acoustical Contractor: Acoustical Products Co. All are Oklahoma City firms.

Noise Volume Lowered, Heat Bills Cut with Sprayed "Limpet" Asbestos

- Country club's dining room gets sound-deadening blanket of asbestos fibers applied on ceiling.

Today, probably more than ever before, sound control plays an important part in industrial, commercial, and home planning. An example is the Hillcrest Country Club, where Sprayed "Limpet" Asbestos helps maintain a quiet, pleasant dining atmosphere by trapping and smothering sound waves.

• **Two-way Sound Control**—This insulation's surface yields with sound waves, reducing their intensity. Sound waves are further dissipated by being absorbed in the millions of Sprayed "Limpet" Asbestos pores.

• **Valuable Insulator**—Heated air can't escape through this seamless insulation blanket—cold air can't seep in through it. Applied on thin, single-layer roofs, it has produced fuel savings as high as 50%.

• **Other Properties**—Sprayed "Limpet" Asbestos is light in weight,

highly fire-resistant, even provides condensation control. It absorbs water vapor, prevents "sweating" effect.

• **Informative folder available**—K&M's folder on Sprayed "Limpet" Asbestos will be sent on request. Details for obtaining it are in coupon.

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Please send me your folder on Sprayed "Limpet" Asbestos.

Name _____

Company _____

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City _____ Zone _____ State _____

to throw light on some of the great mysteries of why we behave the way we do. One major area of research involves how much information the human channel can handle.

• **Low-Grade Machine**—The human being, it turns out, is a relatively low-grade communication channel. He can handle around 25 bits of information a second compared with television's 40-million.

The most obvious example of the human channel is the pilot of a high-speed jet plane. Here the source is, perhaps, a radar screen, the channel is the pilot, and the recipient is the gun switch. Since the jet plane is moving along at 700 ft. per second there's very little room for dilly-dallying over decisions. If the pilot presses the gun switch a second too late he's firing 700 ft. further down the road. The experimental psychologist's work indicates that when you have to make very fine distinctions about a single attribute, consistently and accurately, you must use a machine. The task is beyond the average man's channel capacity.

This finding leads the psychologists to guess that the jet pilot who has to make fast decisions would recognize a display of simple "Yes-No" indicators (they call them "junk stimuli") more efficiently than a single finely calibrated gauge.

And this simple conclusion has tremendous implications for decision-making, which is the heart of automation in the office. When very exact determinations have to be made, machines are probably more useful than humans. When a lot of simple "Yes-No" identifications have to be made, a human is more flexible and probably cheaper.

In behavior, we are also dealing with probabilities just as we are in communicating messages mechanically. When we are emotionally calm, we tend to do things in a stereotyped way. We fall into habits. A wife or a secretary can predict how we will react in any normal situation. Our reactions don't convey much information. But if we are emotionally upset or presented with unusual situations, we react strangely. We convey a lot of information. The patterns we follow in given situations tell the psychologist a great deal about us as communications channels.

By studying these patterns and by determining the amount and types of information we can handle, psychologists may some day be able to come up with scientific means of setting problems for workers. We may be able to find ways to avoid overloading students with information in school. We may be able to devise methods of presenting data so that it can be most easily transferred from one fellow's mind to another's, for example, in advertising or safety.



*How a
special wire cloth
"wraps up"
better crops*

• Fanning mill cloth—used in huge machines for grading seeds—must be virtually perfect dimensionally. Even slight deviations in the mesh openings affect the value of seed crops . . . for grading must be *precise* under rigid government inspection.

Like other producers, the Reynolds Wire Division of National-Standard had been supplying cloth of bright galvanized wire. Could it be improved upon? After prolonged research with various finishes and types of wire, Reynolds hit on the idea of developing cloth of National-Standard's Copperply® wire for this special use.

Copperply fanning mill cloth, now available, offers re-

markable new advantages. Its soft, electroplated copper coating "sets" better, permitting extreme accuracy in weaving and greater stability in use. Slick and bright, it speeds the flow of seeds in screening. Finally, its conductivity permits effective grounding to avoid seed accumulation due to static electricity.

Here's only one of many, many examples of how Reynolds undertakes new developments to help customers solve problems and produce *better* products, often at *lower cost*. But problem or no problem, Reynolds customers, and National-Standard customers in general, know the satisfaction, the value, of exceptional service and cooperation. Try us; you'll see.



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ATHENIA STEEL DIVISION • CLIFTON, N. J.

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Special Machinery for Metal Decorating

WORCESTER WIRE WORKS DIVISION • WORCESTER, MASS.

Round and Shaped Steel Wire, Small Sizes

Trusts Eye Dwindling Yields

The lofty level of the stock market, and its reaction train of fantastic price-earnings ratios and shrinking yields, have the investment trust managers scratching their heads these days.

They're puzzled, but they aren't scared—despite the whispered rumors in the Street that the trusts have started profit-taking sell-offs of shares that were once their favorites. These rumors just aren't so, in any literal sense, but they aren't wholly baseless either. Signs are increasing that the investment trusts are feeling the repercussions of a market that in some cases has pushed the yields of common stocks down below government bonds (tabulation).

The puzzled head-scratching reveals itself in the turnover of the securities held by the mutual funds. Portfolio buying-and-selling for second quarter 1955—not counting government bonds—was the highest ever. Sales for the period were at an annual rate of \$1-billion, equal to 17% of the trade's reported midyear assets of \$7.2-billion.

• **No Trend**—This turnover by no means indicates that the trade as a whole is frantically shifting out of commons into the "safer" havens of preferreds and bonds. On the contrary, no general investment policy at all can be discerned.

Indeed, buying of corporate securities by the funds continues to outstrip selling, though the gap was narrower in the second quarter than in the first. And, while outsiders have no means of calculating precisely what the purchases were, one fact is evident: Total assets of the funds went up \$1.1-billion in the first half of 1955, and a mere \$50-million increase appeared in their holdings of cash, governments, and short-term bonds.

Certainly, the size of the turnover belies the frequent cracks about the inertia of the funds. As one observer puts it, "They do not merely sit and hold, but follow active investment policies."

• **Some Withdrawal**—You can find a few scattered indications of funds that are pulling back a bit from common stocks. The head of one closed-end fund admits freely that his company has concluded that "many commons have finally reached levels that discount much that lies ahead." So the fund has decided to cash in some of its large paper profits, while cutting its commons holdings from about 85% of assets back to 80%.

	How Recent Price Rises Have Outpaced Earnings Gains And Dividend Hikes	
	Sept. '53 Low	Recent Level	Sept. 1953	Recent Level	Sept. 1953	Recent Level
Allied Chem. & Dye...	\$ 62.00	\$113.25	12:1	22:1	4.84%	2.65%
Aluminum Ltd.	43.12	106.50	20:1	27:1	4.64	2.07
Aluminum Co.	22.50	68.87	10:1	23:1	3.56	1.45
American Potash "B".	25.43	85.75	7:1	17:1	7.16	2.34
Dow Chemical	33.75	55.25	21:1	35:1	2.96	1.81
E. I. du Pont	99.12	228.75	20:1	28:1	3.80	2.62
Eastman Kodak	41.75	78.75	15:1	19:1	4.31	2.79
General Electric	22.87	52.50	12:1	22:1	5.81	3.06
Hercules Powder	60.25	120.50	14:1	20:1	4.98	2.50
Hooker Electrochem ..	18.33	40.25	19:1	29:1	3.66	2.48
Houston Oil	54.00	133.75	11:1	26:1	6.16	1.68
Int'l Business Mach...	226.00	424.00	27:1	35:1	1.70	0.94
Johnson & Johnson ..	55.50	82.50	13:1	18:1	2.52	2.00
Minn.-Honeywell Reg..	27.75	60.00	17:1	23:1	4.01	2.33
Minnesota Mining ...	43.87	108.00	20:1	34:1	2.28	1.48
Monsanto Chemical ..	26.33	45.00	16:1	23:1	3.16	1.85
Radio Corp.	21.62	50.50	9:1	17:1	4.63	2.67
Reynolds Metals	42.75	218.00	4:1	19:1	2.36	0.69
Rohm & Haas	120.00	372.00	19:1	24:1	1.33	0.43
Schering Corp.	11.00	31.00	12:1	31:1	4.55	1.61
Scott Paper	30.25	73.00	17:1	29:1	4.46	2.47
Trane Co.	13.37	52.25	7:1	17:1	5.61	1.91
Union Carbide	62.87	97.25	18:1	25:1	3.98	2.57
Vick Chemical	25.62	63.50	8:1	15:1	4.69	2.36
Visking Corp.	39.38	80.50	9:1	16:1	4.62	2.48

(1) Prices where necessary have been adjusted for stock splits, etc. (2) Ratio of stock prices to yearly earnings; basis: reported 1953 per-share profits, latest 12-month earnings. (3) Figured on cash dividends paid in 1953, on indicated 1953 rate.

This same money manager doesn't believe that many open-end funds will follow suit. He figures that tax reasons would restrain the open-end outfits from taking any big chunk of the huge paper profits now available to many of them. His own, closed-end company is taxed at the regular corporate rate of 25% for long-term capital gains, and 52% on all other taxable income—except dividend income that is effect is taxed at 7.8%. On the other hand, most open-end funds operate under Subchapter M of the tax code, so that they pay no federal income tax as long as they hand over to shareholders virtually all their net investment income, and their net realized taxable gains. However, they must pay 25% on any undistributed long-term capital gains.

This leaves the open-enders between the devil and the deep blue sea, if they cash in paper profits. If they turn the

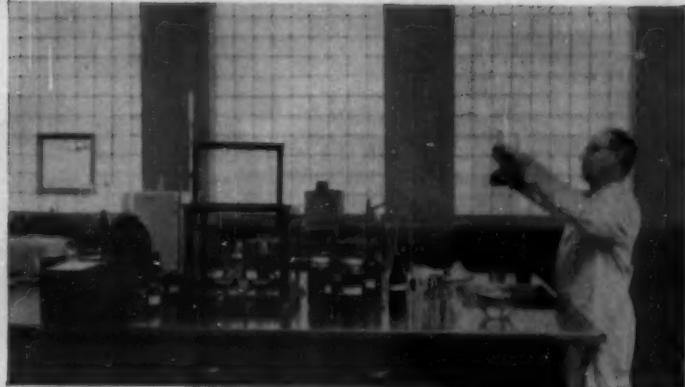
money over to shareholders, they lose a large hunk of their assets. But if they protect assets by retaining the gains, Uncle Sam grabs a 25% cut, which would undoubtedly leave the stockholders howling with rage at not having had the money paid over to them in the first place.

• **Why Change?**—The open-enders themselves do not mention this factor, apparently because they do not expect it to have much weight in the near term.

In general, they sum up their position this way: Of course we know the market is high, but the outlook is good, too. We see nothing close ahead to lead us to significant portfolio shifts. Not that we are sitting tight; we are constantly making shifts of individual stocks, based on our best judgment. Lately, those shifts have been on a perfectly routine basis.

Individual open-enders, discussing

ANOTHER PLANT MODERNIZES WINDOWS . . . CUTS COSTS!



"\$1050 saved the first year with PC Glass Blocks"

says **Myron J. Hess**, General Manager,
S. Twitchell Company, Camden, N. J.

This is the story of a small, highly reputable manufacturer who was faced with the necessity of air conditioning his building. He ended up with not only air conditioning, but with completely modernized windows—both for less than the air conditioning alone would have cost.

Air conditioning was going to be a major investment, but it was discovered that by replacing the old windows with PC Glass Blocks*, the size of the air conditioning unit could be reduced from 20 to 15 tons—an immediate savings of \$2800.

Other costs would also be avoided by modernizing the windows with PC Glass Blocks. To repair the existing sash would cost \$2000. Window breakage cost \$1000 per year, while glass blocks are seldom broken. Window washing, not needed with glass blocks, cost \$250 per year. Now add it all up:

Cost of PC Glass Blocks	\$5000
Less savings on air conditioner	\$2800
savings on sash repair and breakage	3000
savings on washing	250
First year's direct savings with PC Glass Blocks	\$1050

In addition, steam pressure in winter was reduced from 7 pounds to 2 pounds because of the better insulation*. Window blinds, glare and dirt were eliminated. And it is estimated that employee efficiency is up 15%.

PC Glass Blocks can fit into your plant modernization plans, too. Write for our booklet, "How To Modernize Old Windows." Address Pittsburgh Corning Corporation, Dept. G-75, One Gateway Center, Pittsburgh 22, Pa. In Canada: 57 Bloor St. W., Toronto, Ontario.

*PC Glass Blocks have twice the insulating value of ordinary windows.

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R. B. SAYRE
Vice President
Started 1921 as Warehousesman



D. WALLACE
Vice President
Started 1922 as Assistant Accountant



H. METZ
District Mgr., New York
Started in 1914
in Student Course



E. E. MARTIN
District Mgr., Boston
Started in 1920
as Service Clerk



J. A. MAYER
District Mgr., Philadelphia
Started in 1913
as Equipment Installer



L. G. FIELDS
District Mgr., Richmond
Started in 1924
as Selector



A. B. HAMMOND
District Mgr., Atlanta
Started in 1906
as Mail Clerk



D. L. HARPER
District Mgr., Jacksonville
Started in 1933
as Salesman



C. E. KIRKPATRICK
District Mgr., Cleveland
Started in 1936
in Office Sales



J. E. CARROLL
District Mgr., Pittsburgh
Started in 1935
as Salesman



H. O. COOK
District Mgr., Detroit
Started in 1920
as Messenger



E. R. YONKERS
District Mgr., Cincinnati
Started in 1933
as Salesman



W. E. GUY
District Mgr., Chicago
Started in 1924
as Salesman



N. W. ZILCH
District Mgr., Minneapolis
Started in 1934
as Serviceman



C. E. POWELL
District Mgr., St. Louis
Started in 1914
in Student Course



W. FRAZIER
District Mgr., Kansas City
Started in 1911
as Office Boy



V. A. ELMBLAD
District Mgr., Dallas
Started in 1920
as Warehousesman



J. E. FONTAINE
District Mgr., Houston
Started in 1928
as Warehousesman



R. W. KIMBERLIN
District Mgr., San Francisco
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as Sales Record Clerk

and DISTRICT MANAGERS



A. C. LAMPERTI
Comptroller
Started 1920 as Bookkeeper



F. E. GIBSON
Treasurer
Started 1920 as Service & Claims Clerk

all began
“in the ranks”

The graphic features a stylized sunburst or starburst at the top left. Below it, the number "78½" is written in large, bold, white digits. Underneath "78½" is the word "years" in a smaller, lowercase serif font. Below "years" is the phrase "(and 11 months)" in a smaller, italicized serif font. Underneath that is the word "of" in a large, lowercase serif font. At the bottom is the word "experience" in a large, lowercase serif font. At the very bottom of the graphic, in a small, italicized serif font, is the text "Average service 33 years".



S. W. SCOTT
District Mgr., Los Angeles
Started in 1923
In Student Course



J. P. LAWTON
District Mgr., Seattle
Started in 1928
as Salesman

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Graybar, oldest and largest independent distributor of “everything electrical”, has long proved the soundness of this principle by continually filling key company posts from within.

The result? An experienced, close-knit management group who — as clerks, office boys, and salesmen — *themselves* helped build the foundation for Graybar's ever-growing list of customers.

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Moreover, Graybar is totally owned by its operating and retired personnel. That's another reason why every Graybar employee is personally interested in meeting your electrical needs accurately, helpfully, and as rapidly as possible.

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"...the funds, just like individual investors, aim for income, for capital gains, or for both..."

TRUSTS starts on p. 66

their problems, came up with these assorted ideas:

Company A: Yields are a tremendous problem with prices so high; indeed, the yield of one of our funds is lower than we like to see. So, obviously, we have been scanning our portfolios more carefully than ever, shifting to stocks of greater growth potential. But we have made no concerted effort to take profits.

Company B: We are not selling because of today's high market levels. We have liquidated some small holdings to build up cash reserves. Our sales have been a normal part of maintaining our portfolio.

Company C: We are investing more than we are liquidating. There's no significant pattern in the deals.

Company D: In our balanced fund, we can shift as we like among commons, preferreds, and bonds—as long as we keep at least 25% of assets in cash, bonds, or preferreds. We have done some buying and selling, but we have dumped no large blocks of commons. In fact, commons are now about 65% of our securities. (At the end of 1954, commons made up 69% of this fund's assets.)

Company E: In the second quarter, our purchases of new commons topped sales by around 30%; in the first half of July the differential was around 33%. We did cut back our holdings in paper, aircraft, and rubber in the second quarter, because we felt some were overpriced, but we are still substantially interested in those trades.

These optimistic views in the trade are regarded with doubt by many smart Streeters, including some by no means hostile to the funds. "What else can they say?" the viewers—with alarm ask. After all, it is the funds and the other institutional buyers that have driven the blue chips up into the stratosphere; would you expect them to admit now that their holdings are overpriced? If they did admit it, what would the effect be on their new-share sales and redemption rate?

• Frank Talk—This cynical view is completely at variance with the behind-the-scenes activity of at least one New York trust, whose top investment man has never in the past concealed his swings from bearishness to bullishness and back. This manager said:

"Percentagewise, we did our biggest selling of the bull market on July 6 and 7. Most of the liquidation was in steel, plus a few metals stocks and building shares. We halved our steel holdings, including one stock that had run up very sharply. And one of the

building stocks we sold brought 2½ times what it cost us."

However, the manager stressed that none of this selling was based on doctrinaire moving out of commons into bonds. It was just money management, intelligent switching, and most of the proceeds went back into the market, into merchandising stocks that the company thought were due for a post-doghouse rise. The manager added:

"As I see the market now, it is plenty high. Some yields and price-earnings ratios seem out of this world. Our studies indicate that stocks generally are well above their 'normal value,' and there are many signs that the market's basic position is deteriorating. However, the price movement is still within what I call 'tolerable limits.' The market is confident, but not exuberant. And with the public showing no outward fears, it can move still higher."

• How High?—This manager could only guess how high this rise might be. He thought that the Dow-Jones industrial average might climb from 465 to 500.

If it did, he said, his fund would go in for plenty of switching, starting with a move out of metals into utilities, which still offer good yields and have strong defensive qualities.

What's more, the manager said that when prices finally do turn down he expects a rolling market, and not a real bust—nothing worse than the 1953 dip, and with the average ranging between 500 and 400 this time, instead of the earlier 350-250.

He went onto point out that the funds, just like individual investors, aim for income, for capital gains, or for both.

Up till recently there was a good chance of hitting both targets, but that unusual period is over. Now, the manager said, a trust should aim for good, well-protected yields, and let capital gains alone. Not that he saw doom ahead; what he urged was caution, with intelligent shifting, but no dumping.

• The Targets—Few trusts, of course, are willing to specify the buying or selling targets of their switching. But they do publish quarterly reports of portfolio changes. Only a few of the midyear reports are out now, but the early birds indicate quite heavy selling of General Electric (which ranked eighth in trust holdings at the end of 1954), Westinghouse (which ranked 12th), and Union Carbide (which ranked 20th).

Fabric helps Alcoa turn "Red Mud" into magic metal—



Aluminum at its versatile best—the Alcoa building in Pittsburgh.



Today, nearly everywhere you look you see aluminum. Behind this magic metal stand increasingly efficient production methods. In these, a new Wellington Sears fabric is playing a vital role.

In the process of refining aluminum from bauxite at Alcoa's Bauxite, Ark. plant (shown at left), an insoluble "red mud"—iron, silicon, and titanium—is

filtered out.

Some aluminum, however, still remains in the "red mud" residue. But today Alcoa's modern methods of refining this one-time waste have remarkably increased aluminum output.

The process places heavy stress on the filtering fabric. The problem of developing a filter cloth that would stand up to strong caustics and provide easier "cake" discharge was given priority at Wellington Sears. We are proud that our specially developed fabric has been approved by Alcoa for commercial use.

In this way, for over a century, Wellington Sears has tried to blueprint fabrics for industrial progress. Whatever your need—from long-lasting fabric for conveyor systems to flexible backing for coated upholstery—if you would welcome a firm whose first concern is not the mark-up but the make-up of the goods, let's get together. Write us for illustrated booklet on "Filter Fabric Facts."

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FINANCE BRIEFS

You can't give away General Motors common stock, says the Florida Securities Commission—at least not as a premium for buying a new GM car. The Florida auto dealer who arranged the stock giveaway stunt—with an assist from Wall Street's Merrill Lynch, Pierce, Fenner & Beane—sold about 200 cars on the strength of his premium offer before the commission said no.

Mattresses and cookie jars just didn't fill up as fast in the first quarter as in previous periods, reports SEC. Liquid savings by individuals were only \$1.7-billion in the first quarter this year compared with \$2.8-billion in the 1954 quarter. SEC noted that the drop reflected primarily the "substantial growth in individual debt."

TVA would like to sell bonds—to finance some \$144-million of future expansion says Chmn. Herbert D. Vogel. The Senate Public Works Subcommittee is considering TVA's bond plan, which Vogel says would bypass TVA's dependence on Congressional appropriations. The bonds would not be official Federal obligations but would be backed by power revenues.

Almost out the window: The latest issue of local housing bonds backed by the Public Housing Administration was the nearest thing to a total success in some time. The dealer group that marketed \$101-million of the \$121-million worth of bonds reported all but \$1.5-million sold in less than two days. Biggest reason for success: Yields were higher and bond buyers haven't had many high-grade issues to choose from lately.

Depositors have been withdrawing money at the rate of \$92.20 for each \$100 deposited in the nation's commercial banks, according to a survey made by the American Bankers Assn. Three years ago, withdrawals were only \$86.50 for each \$100. For savings banks, which normally pay higher interest than commercial banks, the withdrawal rate was 82.2%.

Spending for railroad equipment got a big shot in the arm this week when two of the nation's largest roads, the New York Central and the Pennsylvania announced hefty programs. Central ordered 61 new diesel locomotives from General Motors' Electro Motive Div. at a cost of \$9.6-million, and Pennsy ordered 4,000 new freight cars, costing around \$32.4-million, from three different equipment builders.

IDEAS THAT SELL . . . BY PACKAGE MACHINERY



MARKETING TWIST

What made salt water taffy popular? This confection, cut and wrapped by hand some 30 years ago, was known only to a few. But Package's development of a single machine changed that. Almost overnight one girl's hourly production became a matter of minutes. Result: mass distribution.

Today, packaging revolutions like this are not quite so common. Now even the tiniest gain can often spell a coveted competitive edge. That is why the Package representative nearest you must be an expert on more than just the equipment he sells. He can help you with more than just wrapping machines . . . he specializes in the ideas that will help you use them more profitably.

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AFL-CIO: Real Unity Is Elusive

● The merger is set—but there are sure to be thorns in the bed of roses.

● Parcelling out headquarters jobs will be a tough job for Meany and Reuther.

● Raiding also bodes ill, with Beck's Teamsters refusing all compromise.

There must be times when George Meany and Walter Reuther wish privately they had sat on the idea that the AFL and CIO should be joined. Merger of the two federations is coming off on schedule in December, but in one sense the toughest problems of the two leaders are still to come.

Two weeks from now, in Chicago, American Federation of Labor Pres. Meany must answer to those recalcitrant union leaders who still object to his moves in bringing about the alliance. Opposition will come from men who just don't like merger as well as from those who object to the terms.

• Convention—These opposition voices are in the minority. But they are expected to be raised in full register when the AFL opens a special convention

next week—and holds a day-long meeting of 111 AFL international union presidents who want to discuss the conditions for combining with the CIO.

And, in the days ahead, Meany must bargain with CIO leader Reuther on parcelling out the top jobs of the new headquarters staff. Mathematically, they have two candidates for each staff job, and they are pledged to keep everyone on the payroll.

Meany's task in selling merger to the AFL, once and for all, is the easiest. The opposition will be objecting to something that is already set and on the way to completion. It is the issue of personalities, and which of the key staff members should head the combined divisions of politics, research, publicity, and the like that is "going

to be tough," in the words of one usually calm AFL man.

• Joint Name—Last week, the final possible hitch was removed when the unity teams agreed, after a two hour caucus, to label the new union—American Federation of Labor and Congress of Industrial Organizations. The new name chosen is strictly a compromise with neither side getting just what it wanted.

In effect, the issue was settled when Meany entered the dinner meeting with the proposal for the joint name. It signaled the AFL's agreement to give up its single title in the face of Reuther's warning that merger wouldn't come under the AFL banner. And the CIO's counter-offer of American Congress of Labor, or any derivative, was a temporary bargaining stand that lost out.

With this decision came the move to add to the foot-high letters AFL in the granite front of the AFL Building now under construction on fashionable 16th Street in the nation's capital. The new headquarters, housing the combined union, will probably be fronted with AFL-CIO.

• Opposition—For the Chicago meeting, Meany can prepare some of his



For NLRB: A New Face, New Problems

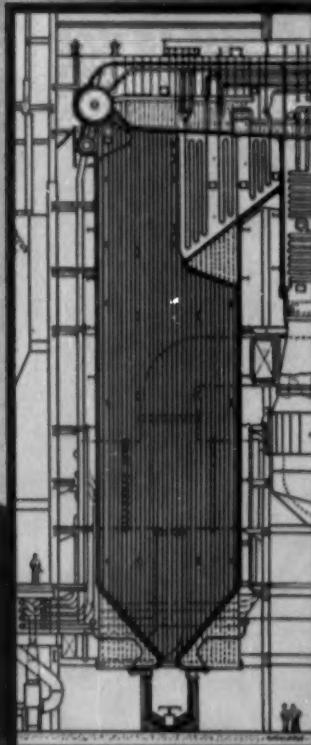
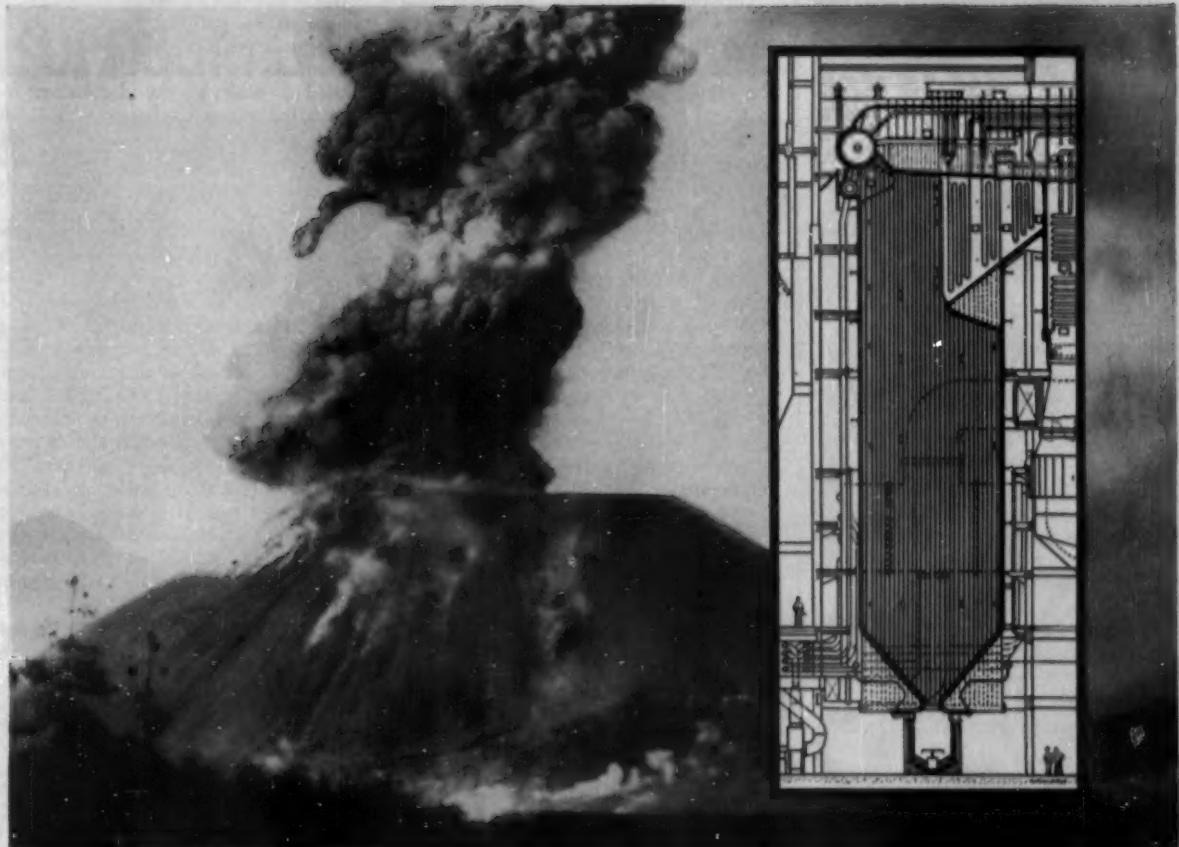
The lineup of the National Labor Relations Board will be changing next month, just as the board ties into the tough new problems arising from the coming AFL-CIO merger.

As now constituted, the board consists of (picture above, left to right) Philip R. Rodgers, Abe Murdock, Chmn. Guy Farmer, Ivar H. Peterson, and Boyd Leedom. In August, Farmer is due to step out. Whether one of the present mem-

bers will be elevated to chairman or whether the new member to be appointed will get the top post remains to be seen. What is sure is that the chairman will be flanked by two Republicans and two Democrats. Today, Peterson and Murdock are the Democrats on the board.

It won't be until December, when AFL-CIO merger is completed, that the new board will really come to grips with the problems that "may

cause a few headaches," according to NLRB General Counsel Theophil Kammholz, who sees the new affiliation label of "AFL and CIO" as causing troubles for the board and employees alike. One problem will be whether a union should continue to keep its certification when the parent union's title is changed. Another is whether an employer must continue to bargain with a union that has changed its affiliation.



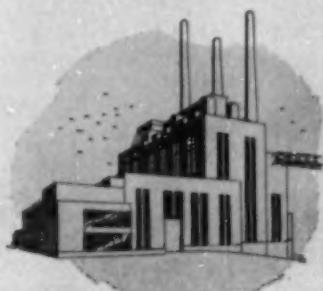
Hot—like a volcano—but wears an overcoat

Inside this giant boiler, *extremely intense and continuous heat* plays a major role in generating electricity for the Walter C. Beckjord Plant—one of three power stations operated by The Cincinnati Gas and Electric Company.

For top efficiency, the flow of intense heat must be controlled to exacting specifications. And that's the vitally important function of Eagle-Picher industrial insulation. It serves as an overcoat for

heated equipment throughout the plant—locks in the heat and helps maintain uniform temperatures. As a result, fuel costs are minimized and Eagle-Picher helps this company provide electric power for the community at "the lowest possible cost."

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homework in advance. Two objecting unions have been outspoken all along about the merger, others have minor misgivings that may come out when the subject is placed on the agenda.

The International Typographical Union, for instance, has done an extensive re-writing job on the proposed joint constitution to change all binding terms to voluntary agreements, and will offer it at the convention. It claims the constitution leads to too much centralized power for Meany and the Joint Executive Council and would alter such key words as "decision" for "recommendation" in settling a jurisdictional dispute between rival unions.

The ITU's argument won't win, and neither will the stand taken by George Lynch, president of the AFL Pattern Makers League. Lynch warns that the amalgamation means a "concentration of power and with that power comes abuse" but he concedes defeat by charging that the session will be a "brainwashing" by AFL officials.

In the CIO camp, only Mike Quill's Transport Workers are objecting to the merger. Union opposition is expected to bring few, if any, disaffiliations from the AFL and CIO when they combine.

• **Raiding Trouble**—Much more important, from the standpoint of troubles for the combined unions, is the matter of raiding. The number of jurisdictional battles is currently at a minimum as the result of a no-raiding ban agreed to by most affiliates and due to be renewed for two years beginning next year.

But Dave Beck's AFL Teamsters, a non-signatory, still has the CIO up in arms over raids on its Brewery Workers Union. Last week, CIO leadership leveled a blast at the Teamsters for "unbridled piracy," charging that the tactics of the truck union were "seriously jeopardizing" merger—but even the CIO is conceding the rivalry wouldn't prevent it.

Beck has consistently refused to agree to the ban on raids and it was primarily his stand that made this section of the constitution a voluntary area, not binding on affiliates of the merger. Raiding is sure to continue in the new setup.

• **Personnel**—In threshing out assignments for the new staff, Meany and Reuther have a hopper full of names to choose from. For instance, they'll have to pick either Jack Kroll of the CIO Political Action Committee or James McDevitt of the AFL Labor's League for Political Education to handle the new political activities—or pick a compromise. The same is true of the top research post—now manned by Stanley Ruttenberg for the CIO and Boris Shishkin of the AFL—and half a dozen other jobs.

Both have pledged to pick the "best" man for the job, and it will mean trading one against the other. Only three posts are set—Meany as president and AFL's William Schnitzler as secretary-treasurer with the Director of Organization to go to an as yet unnamed CIO official.

CIO staffers may land in the "industrial union department."

Cost of Living:

What's Happening to It

	Total Cost of Living	1947-49 = 100			
		Food	Clothing	Housing	Total Rent Only
June, 1948	103.1	106.0	102.9	101.2	100.2
June, 1949	102.0	101.1	99.5	102.7	104.8
June, 1950	101.8	100.5	96.5	104.9	108.7
June, 1951	110.8	112.3	106.6	112.3	112.7
June, 1952	113.4	114.6	105.6	114.0	117.6
June, 1953	114.5	113.7	104.6	117.4	123.3
June, 1954	115.1	113.8	104.2	118.9	128.3
July	115.2	114.6	104.0	119.0	128.5
August	115.0	113.9	103.7	119.2	128.6
September	114.7	112.4	104.3	119.5	128.8
October	114.5	111.8	104.6	119.5	129.0
November	114.6	111.1	104.6	119.5	129.2
December	114.3	110.4	104.3	119.7	129.4
January, 1955	114.3	110.6	103.3	119.6	129.5
February	114.3	110.8	103.4	119.6	129.7
March	114.3	110.8	103.2	119.6	130.0
April	114.2	111.2	103.1	119.5	129.9
May	114.2	111.1	103.3	119.4	130.3

June, 1955 114.4 111.3 103.2 119.7 130.4

Data Dept. of Labor, Bureau of Labor Statistics.

BUSINESS WEEK

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This advanced G-E general-purpose-type fractional-horsepower motor, insulated with Du Pont "Mylar," is compact and lightweight—provides maximum power in minimum space.

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Doctors, Union Fund Sign Up

Although labor union speakers have often referred to the American Medical Assn. as the tightest closed shop-closed union in operation, it has never been a friendly description. The unions and the AMA have fought each other on broad questions of public policy such as a national health program and on local practical issues such as group medical coverage of union members.

Now, in California—where the local units of AMA and the labor organizations have been as deeply antagonistic as anywhere else—a new trail in cooperation is being blazed by the working relationship established between a conservative county medical association and a left-wing union.

• **Dental Care**—The ILWU-PMA Welfare Fund, a joint trust of Harry Bridges' International Longshoremen's & Warehousemen's Union and the Pacific Maritime Assn., has always been an innovator. A year ago it launched into the deep, uncharted waters of dental care (BW—Sep. 25 '54, p112). Around the same time it took an experimental flier in preventive medicine.

• **Panel Problem**—Now, under a novel plan with the help of the San Joaquin Medical Society, the fund is providing medical and surgical coverage for the 550 longshoremen in the port of Stockton, Calif., and their families.

The Stockton health contract accords a degree of protection not commonly available in group coverage. But what makes it unique is that it bridges the chasm between closed-panel and open-panel health insurance.

In California, that's an accomplishment. The California Medical Assn. has watched with disfavor the mushrooming growth of Henry J. Kaiser's closed-panel health plan, which now covers 500,000 on the coast. In the closed-panel restriction on choice of a physician, the CMA sees an assembly-line approach to medical care and a rupture of the normal relation between doctor and patient.

As the Kaiser Foundation Health Plan has spread, the CMA has improved its own open-panel plan, the California Physician's Service, by making full benefits available to people of higher income. In most counties, full CPS coverage is available to people up to the \$6,000 income level.

• **Free Choice**—The Stockton contract gives workers the economic benefits usually associated with closed-panel service while preserving the free-choice feature inherent to the open-panel system.

Members of the San Joaquin County Medical Society last year created the San Joaquin Foundation for Medical

Care as the vehicle through which they could participate in the welfare fund's preventive medicine experiment. Now the foundation has assumed the additional role of receiving insurance payments from the welfare fund and paying doctors for service to the insured.

Any member of the county medical society may become a member of the foundation and thus qualify to treat those covered by the contract. So far, 125 of the 154 members of the society have qualified and the number is growing. For emergencies arising outside the county, provision is made for reimbursing physicians who are not members.

For each worker covered, the welfare fund pays the foundation \$7.31 a month. Doctors bill the foundation for services rendered.

For health insurance purposes, the doctors have three schedules for fees, based on average income of a group. Schedule A is their normal fee, for people over \$4,500 a year. Fees on Schedule B are 75% of those on Schedule A, for people in the range of \$3,500 to \$4,500. On Schedule C, for people between \$2,500 and \$3,500, the fees are 50% of Schedule A.

• **Predictable Cost**—By contrast, insur-

ance-company plans generally allow a stipulated amount for each visit to or by the doctor. If he charges more, the patient makes up the difference. Under the Stockton plan, a patient's out-of-pocket expense is both limited and predictable.

The great bulk of the ILWU-PMA welfare fund comes from employer contributions of 10¢ per man-hour. The rest is made up from the 1% payroll tax on workers for disability insurance; the state takes 1% of the first \$3,000, the fund gets what is left.

Total contributions come to about \$3.5-million a year. Of this, the Kaiser Foundation gets \$1.25-million for a complete health package in the larger port cities and Matson Assurance Co. gets about \$1-million in premiums for medical insurance in smaller ports.

Results of the preventive medicine experiment in Stockton are still being tabulated. Full-scale medical examination with all the frills was made available to any longshoreman or warehouseman who wanted it. Of 900 eligible, 688 took the tests. The object was to spot incipient ills before they developed into costly medical, surgical, and hospital cases.

Minimum Pay Hike: Whodunit?

Republicans and Democrats alike claim credit for boost to \$1 an hour. Main impact will be felt in the South.

When the new \$1 federal minimum wage becomes law early next year, its effects will be felt from the lowest-paying industries to the highest political rostrums.

Practical results of Congress' decision to hike the current rate by 25¢ will come primarily in the South, where a majority of the 2.1-million workers due for an automatic increase work in lumber, textile, clothing, and leather industries (BW—Apr. 23 '55, p134). They are paid less than the \$1 rate.

Political consequences are more nebulous, but both Democrats and Republicans—who teamed up to put through the new wage—will be out to make capital of the action. It figures to be a big talking point in next year's Presidential race.

• **"Half a Bill"**—The ink was barely dry on last week's \$1 wage bill voted by the House, 362 to 34, when Labor Secy. James P. Mitchell proclaimed his support of the amount and his disappointment at leaving out extended coverage in the measure. He termed it "half a bill."

Democrats, led by Paul H. Douglas of Illinois who shepherded the measure through the Senate, were quick to lay the blame on the Administration for failure to include those retail and service employees who are now exempt. Douglas accused Mitchell of "double-talk" for urging greater coverage without coming up with any specific administration proposals on how it should be done.

Actually, the \$1 figure will be employed by politicians on both sides. Although the Administration asked only 90¢, it can claim that the first raise in six years—despite long-time union urging—came at a time when the Republicans control the White House.

The Democrats take credit for adding on the extra 10¢.

• **What Date?**—At midweek, the only big remaining issue was the effective date of the new wage—a matter of negotiation between the Senate's Jan. 1 date and the Mar. 1 period set by the House. Pres. Eisenhower's signature on the bill seemed sure since Mitchell has proclaimed his support.

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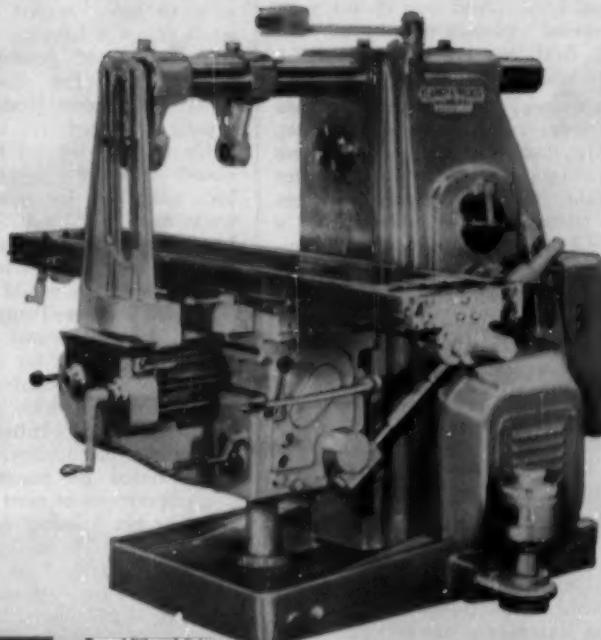


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Machines over 20 years old, which should definitely be replaced.

Machines 10-20 years old, which should probably be replaced.

Machines less than 10 years old.

3987 automatic and manufacturing type milling machines

39%	47%
-----	-----

5143 vertical milling machines

34%	56%
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9373 knee type horizontal milling machines

37%	38%
-----	-----

1009 bed type milling machines

27%	59%
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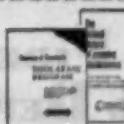
871 horizontal and vertical precision boring machines

37%	61%
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Figures adapted from 1953 American Machinist survey of Metalworking Industry.



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Crackdown on Leftwing Unions

Justice Dept. plans assault on organizations suspected of Communist control. Because of last strike, Mine, Mill & Smelter Workers may be No. 1 target.

A continued shutdown this week of a major part of the nation's nonferrous industry over a wage dispute may win the leftwing Mine, Mill & Smelter Workers (Ind.) substantial raises from some of its biggest employers but it might also make MMSW the first target of a legal crackdown on unions suspected of Communist control.

For almost a year, since the passage of the Communist Control Act of 1950, the Justice Dept. has been planning to move against the remaining small group of leftwing unions. Under the law, aimed principally at labor organizations, the government can break up a union found to be Communist-influenced.

Up to now, the act hasn't been invoked. However, investigations have been under way for months. And, two weeks ago, William F. Tompkins, the Justice Dept. security chief, announced that the department's legal assault on suspected unions would begin shortly.

• **Likely Targets**—Tompkins did not reveal which of several unions Justice would be gunning for first, but there were three good possibilities:

• MMSW, which claims 100,000 members. Firmly entrenched in the vital nonferrous industry, MMSW again demonstrated its power by shutting down operations of most major producers. The pinch led to demand for the release of federally stockpiled copper to ease industrial shortages.

• The International Longshoremen's & Warehousemen's Union, with about 65,000 members. ILWU's president, Harry Bridges, is now being tried on the West Coast for a fifth time on charges involving alleged Communist Party membership. The current case seeks to strip citizenship acquired in 1945, from Australian-born Bridges, on the grounds that he swore falsely in denying he was or ever had been a Communist. Bridges again denied Communist membership in court this week.

• The United Electrical Workers, with membership variously estimated between 100,000 and 150,000. UE's leadership has been under persistent criticism for its leftist position, and federal security officials long have been concerned because it holds contracts with some of the country's major military contractors.

All three—MMSW, ILWU, and UE—are in industries where political work stoppages or sabotage would be a potent weapon against the government.

Other leftwing unions, expelled from CIO in 1949 or 1950, either collapsed, merged into these three larger ones, or no longer have important membership or influence.

• **MMSW the First?**—Because of its strike, the Mine, Mill & Smelter Workers may be the first to face official Justice Dept. action. The result will be an important test of the new Communist Control Act.

Under the law, the Justice Dept. may ask the Subversive Activities Control Board to probe a union suspected of being Communist infiltrated or a Communist front or action group. If the SACB confirms its suspicions and the finding is upheld on appeal, the union loses all legal bargaining rights.

• **Past Experience**—In the past this theory has held up only in part.

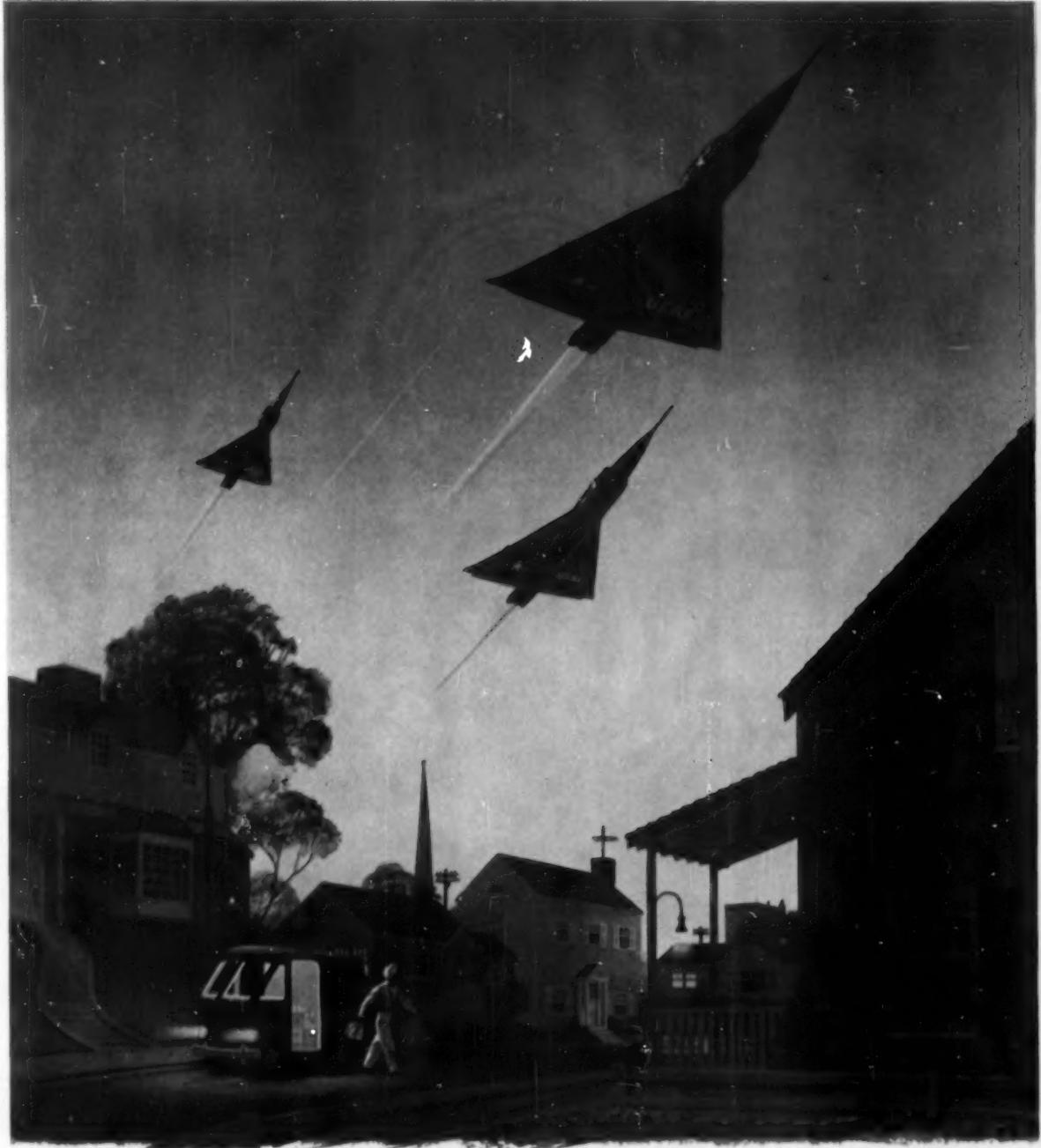
Unions expelled from CIO have lost ground more through raids by rival CIO and AFL unions than through defections on the part of their own locals.

LABOR BRIEFS

Race discrimination was charged by 13 white firemen in a Macon (Ga.) suit against the Central of Georgia Ry. and the Brotherhood of Locomotive Firemen and Enginemen (Ind.). The 13 claim white firemen must compete for mainline engineer and fireman posts while Negroes progress on strict seniority.

• GAW integration in Maryland should be legislated, according to Robert W. Kimble, State Employment Security head. He told a State Legislative Council subcommittee that the state's "extremely indefinite" law should be clarified, to meet the expected increase in GAW contracts. However, union and industry spokesmen doubt that any change is necessary.

• Labor politics in Kentucky doesn't reflect the unity moves of AFL and CIO nationally, or their hopes for a solid front at election time. AFL, backing A. B. "Happy" Chandler for governor in the Democratic primary on Aug. 6, has the railroad brotherhood on its side. CIO and the United Mine Workers favor Chandler's rival, Bert T. Combs, an east Kentucky attorney. Hard campaigning shows in a growing coolness between AFL and CIO in the state.



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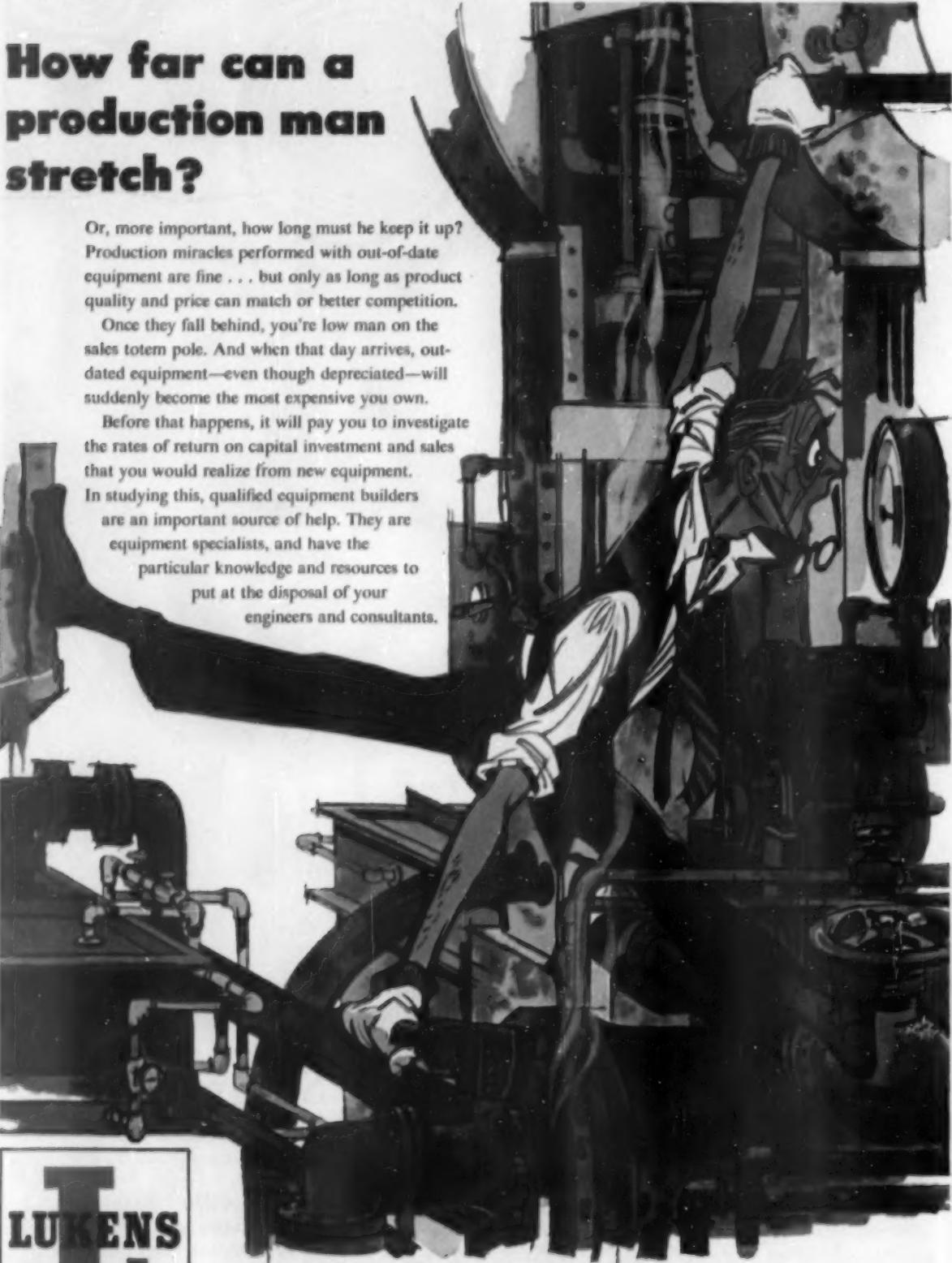
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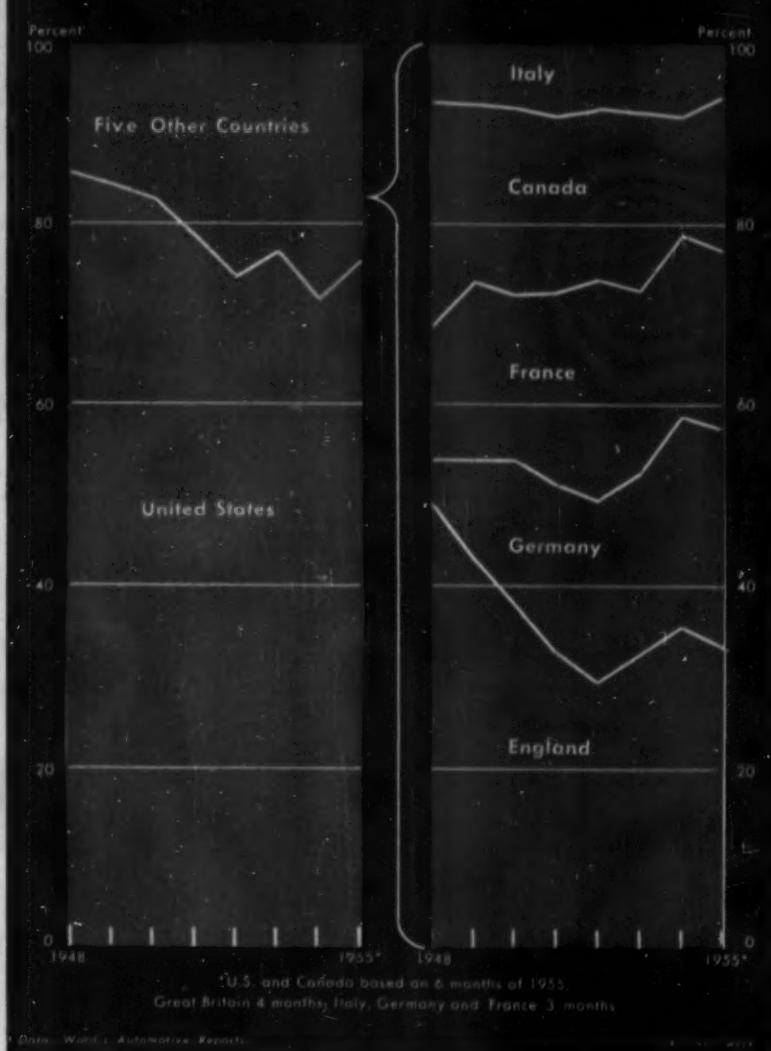
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CHARTS OF THE WEEK

Auto Production
of Major Countries



Foreign Makers Are Creeping Up

The U.S. share of world production of passenger cars slipped about 10% between 1948 and 1955, according to Ward's Automotive Reports' figures covering the six major producing countries. That's despite the fact that during the first half of this year U.S. production more than doubled the 1948 record.

What's pushing Detroit is the in-

creased capacity of European auto makers. The most phenomenal growth has been in West Germany, which today follows the U.S. and Britain. In 1948, Germany ranked sixth—and last—on the six-nation list. Next year, it moved into fifth place, three years later into fourth. Last year, it leap-frogged over France into third.



MAPI'S TERBORGH: "The trouble with intuition is, capable men don't agree."

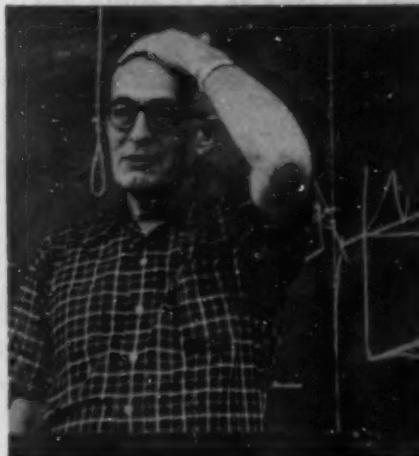
Timing New

Replacing capital equipment, as every industrialist knows, isn't just a matter of waiting for the old machine to collapse and be carted off to the junkyard as you throw away a burned-out light bulb. There's a point (to oversimplify a complicated question) where rising operating and maintenance costs of the old equipment outweigh the high cost of the new.

It's in knowing just when that point is reached that the hitch comes. The best way to find the answer to this question was the magnet that drew 40 engineering, financial, and production executives of more than 30 capital goods companies to an "equipment policy seminar" on the campus of Beloit College, Wis. (picture, left) this month.

• Mission—The Machinery & Allied Products Institute, which sponsored the gathering, has something of a missionary complex on this subject. The institute and its research director, George Terborgh (pictures), hold the firm conviction that U.S. industry misses big cost-saving opportunities by not replacing outmoded equipment, or by replacing it at the wrong time. One of their chosen tasks is persuading both capital goods producers and customers that this is the case.

Sharpening up the MAPI formula for timing machinery replacements, to give it wider application, is what George Terborgh of Machinery & Allied Products Institute is hashing over with capital goods makers.



"The MAPI replacement formula has no real rivals among the highbrows' systems."



"You run into cases where you ought to throw out all formulas, design a new one."



"You can't enhance your return by going under water, then bailing yourself out."

Equipment for Highest Profit

Five years ago, they offered as a scientific approach to equipment replacement the MAPI formula—now used in original or modified form by an imposing list of manufacturers, and recently taken by the Navy as a model in devising its own new replacement policy.

But the MAPI formula has also come in for some criticism—on grounds, among others, that it doesn't fit all situations and that it bristles with forbidding terms and fancy terminology—such braintwisters as "inferiority gradients" and "adverse minimums."

• **Revision**—So in addition to its missionary zeal in plugging what it calls "dynamic equipment policy" at what it expects to be the first of a series of "summer seminars" MAPI had another reason for the Beloit meeting. It wanted to try out some of Terborgh's ideas for revising the MAPI formula to meet the criticisms—to draw on the practical experience of the men who have applied it before unveiling the new model, rebuilt for wider application and greater appeal.

For its first seminar, MAPI chose Beloit, just across the Wisconsin border from the machine tool center of Rockford, Ill.

• **Thumbs and Formulas**—Some of the companies represented were running equipment analyses long before MAPI came out with its formula. Barber-Colman Co. of Rockford, for one, began using its own replacement analysis more than 25 years ago, as a device for selling textile machinery. Any method of getting at the question must take into account a host of interrelated factors. And for the company using the

machines, finding the right moment for replacement is no theoretical, ivory-tower pastime, but something that can change the color of the ink on its book.

Besides requiring excessive maintenance and repair, and falling behind newer machines in operating cost, aging machines—like aging people—can lose precision, become less efficient in utilizing power, turn out work of poorer quality.

For a company whose replacement policy is too sluggish, this can mean loss of production, or slipping back in the competitive battle against more alert producers with newer machines. But the answer may not be a constant off-with-the-old, on-with-the-new policy, either; that can mean a bigger capital outlay than the operating advantages of the new machines can justify.

U.S. industry uses many methods of trying to strike a happy balance:

- Waiting until the old equipment is physically worn out.
- Management intuition and hunches that replacement would save money.

- Following the depreciation schedule used in figuring the machine's book value—which may be based on useful life for tax purposes rather than on equipment needs as such.

- Payout period. This means setting a specified period, usually two to five years, in which expected savings will cover a machine's cost.

- Rate of return. This reverses the process, sets expected annual savings at a specified percentage of cost, usually 20% to 50%.

- Other rules of thumb, such as replacing equipment before the second

or third rebuilding, or noting sharp rises in operating or maintenance cost.

Terborgh and MAPI find objections in all of these approaches. The trouble with intuition, says Terborgh, is that two equally capable observers can come up with widely different opinions. And he argues that management can pass up sizable savings while waiting for new machines to qualify under an arbitrary payout or rate-of-return standard.

• **The Formula**—That's why Terborgh, who is the theorist behind the MAPI formula, set out to find a scientific replacement policy that companies could use as a guide. MAPI itself has a double interest in urging such a policy. The companies it represents make producers' durable equipment, and any policy that would speed up sale of equipment would improve their market. The companies are also big users of durable equipment themselves, and the right answers on replacement could mean substantial savings in their own costs.

In order to take away some of the curse for forbidding terminology, MAPI set up the formula in prize-fight lingo, with the machine in service the "defender" and the proposed new machine the "challenger." The decision is on points, in terms of the old machine's "operating inferiority," with capital costs also reckoned in.

A detailed check list compares relative advantages of the two machines in operating and maintenance costs, and in revenue.

For the "defender," the capital cost is figured as the sum of (1) its prospective loss in salvage value during the coming year, and (2) interest for the year on its present salvage value. If



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"... most seminar participants agreed the formula has improved replacement practice . . ."

REPLACEMENT starts on p. 84

any rebuilding or capital additions to the machine are needed, the part of that cost that is allocated to the coming year is also added in.

Combining the "defender's" operating ratio and capital cost, you get what MAPI calls the machine's "adverse minimum." Then you work out a similar figure for the proposed new machine. In figuring cost of the new equipment, MAPI takes account of prospective service life, terminal salvage value, and the cost of money (whether obtained by borrowing or otherwise). MAPI goes beyond traditional practice by building in a full allowance for expected deterioration and obsolescence over the prospective service life.

Then you total up the points. If the lowest figure for the best new unit is below the old machine's total, then the "challenger" wins the title. Otherwise the "defender" holds it until the next checkup is made.

Creator—The man behind this formula, MAPI's Terborgh, gets some of his evangelistic zeal—but not the uninhibited vigor of his language—from his preacher forebears.

A former college professor with an undergraduate's haircut, he taught economics at Hampton Institute and Antioch College, and spent several years in research for the Federal Reserve Board and the Brookings Institution before joining MAPI full time in 1941.

Just after World War II, Terborgh published, under the title the Bogey of Economic Maturity, a forceful attack on the philosophy of economic stagnation and mature economy that had sprouted in the 1930s. It was his work in overhauling MAPI's depreciation policy that led to the research on equipment replacement that has become almost a lifetime pursuit for Terborgh and is spawning a new breed of "equipment analysts."

Its first major product was a slogan, and a book bearing the slogan as its title: Dynamic Equipment Policy. This book and two MAPI manuals on replacement and equipment analysis have had a combined sale of some 20,000 copies. For formal training in equipment policy, MAPI established two years ago a national center at Illinois Institute of Technology, with Dr. Gerald J. Matchett as director. MAPI has also worked closely with the management consulting firm of Cresap, McCormick & Paget in making its replacement analysis available through professional consultants. The seminar idea, started this year, is the latest step.

Experts—Besides Terborgh and Matchett, the seminar "faculty" included top executives of companies that have pioneered in equipment analysis.

Barker-Colman, which has run about 900 MAPI analyses (probably a record), in addition to using its own replacement analysis, was represented by its president, Duncan J. Stewart, a former Wisconsin University mathematics professor. The company uses equipment analysis both on its own equipment and in selling its machine tools.

Others included Edson I. Gaylord, of Ingersoll Milling Machine Co., Rockford; and James E. Brown, of Cooper-Bessemer Corp., Mt. Vernon, Ohio. Ingersoll makes an annual study of every piece of equipment 10 years old, replaces it unless the report shows justification for keeping it. Younger than 10-year machines must be analyzed to justify replacement.

Bugs—This array of talent and experience was calculated to bring out any bugs to be found in the MAPI formula—though most of the participants agreed that it has substantially improved management practice on replacement.

The capital equipment producers found the formula of greatest advantage to equipment users, with only limited value as a sales gimmick. It's fine, they said, where a customer already uses the policy on his own equipment but it's tough to try to sell the formula and the machines, too.

There was general agreement, too, with a caution from Terborgh, against over-use of any formula, which can only be a tool for aiding judgment.

Other bugs were more technical:

• I. S. Chenoweth of Caterpillar Tractor argues that you can't assume maximum operating performance from a machine in its first year before bugs are ironed out.

• The detailed check list and precise mathematics, others found, give an illusion of precision that one bad guess on a cost item can upset.

• There were objections that the requirements on after-tax earnings could make management too conservative in buying long-term equipment because of a temporary high tax level.

Terborgh indicated that the overhauling now under way on the MAPI formula would meet many of these and other criticisms—particularly in working out simpler language and in providing a variety of formulas to meet different situations. But he was close-mouthed about the date for unveiling the revised formula.

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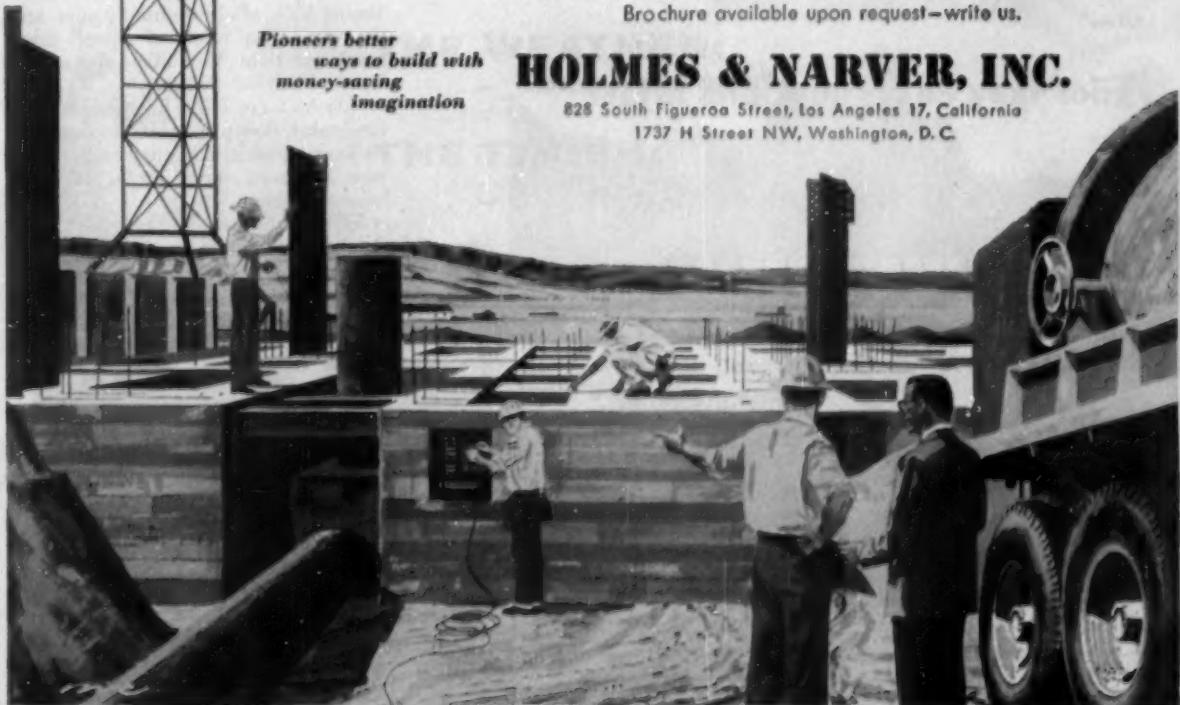


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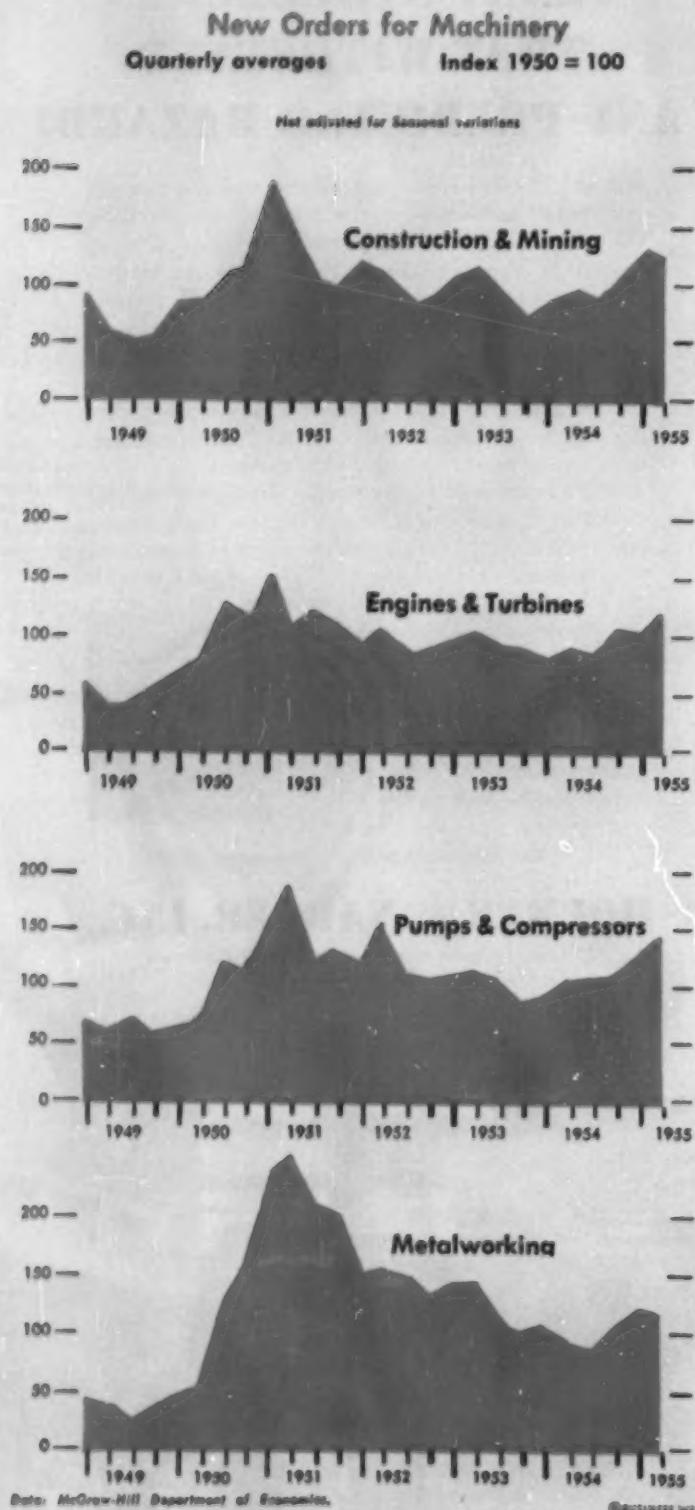
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New Look at Machinery's Health

Here are McGraw-Hill's new machinery indexes. They give a fresh view for business analysis.



This week, **BUSINESS WEEK** begins publication of a new and important set of indexes for businessmen. You see the shape of the new indexes in the charts at left. They cover new orders for four different groups of machinery: engines and turbines, pumps and compressors, construction and mining machinery, and metalworking machinery. Two other groups, not shown here, for which indexes are available are: office machinery and equipment, and other industrial machinery.

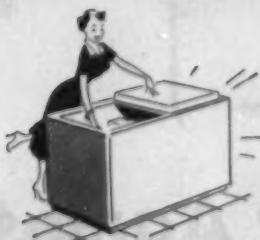
In combination, the indexes for these six groups make up the McGraw-Hill general New Orders for Machinery Index. McGraw-Hill's Economics Dept. has been releasing this general index since March, 1954. It has proved itself a useful tool in business analysis. In fact, the President's Council of Economic Advisers, in its annual Economic Report of the President, has referred to the index as an indicator of business' investment preparations.

The index is based on confidential reports from capital goods manufacturing companies that form a representative cross-section of the machinery industries. The companies that make these confidential reports account for almost 50% of all machinery sales, and they range, in terms of annual sales, from less than \$10-million to several hundred million dollars.

Now McGraw-Hill's Economics Dept. has broken down the general index into its six component parts to give businessmen an even more useful tool for business analysis.

- **What It Shows**—The charts at left—their figures complete to the end of June—give you a clear picture of the rosy times that machinery makers are currently passing through. New orders for each of the six groups of machinery are far outstripping last year's poor showings.

At the end of June, engine and turbine makers were handling 26% more orders than a year ago; pump and compressor makers had 29% more business than in June, 1954. New orders placed with makers of construction and mining machinery were up 30% over a year ago, and there was 40% more work for makers of metalworking machinery. In the two fields not charted, the business of office equipment makers was up 30% and that of manufacturers of other industrial machinery was up 40%.



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The Birla Empire



Head man of India's giant Birla combine is Ghanshyam Das Birla (above). A grandson of the founder of the family's economic empire (map right), he plays the role of chief adviser to its diverse businesses. He is largely responsible for the fact that the Birlas, unruffled by government attacks, are . . .

from colonial investments. Decades later, after communications between London's City offices and Calcutta's traders improved, managing agencies continued to flourish.

• **Not Quitting**—Now the Indian government is leveling its sights on them. But even if this special method of doing corporate business is legislated out of existence, it will leave behind some huge Indian enterprises. And these centers of economic power have no intention of giving up the ghost. They aren't planning to go out of business because of troublesome legislation or the general trend toward socialism under Prime Minister Nehru.

One of the largest of these groups—

and certainly the most peculiarly Indian in character—is the Birla empire, a strictly family business. It was founded almost 100 years ago by a small town Indian merchant and moneylender. In 1919, as Birla Bros., Ltd., it became the country's first Indian-owned managing agency. By 1947, the year of India's independence, it was in the vanguard of the country's industrial revolution.

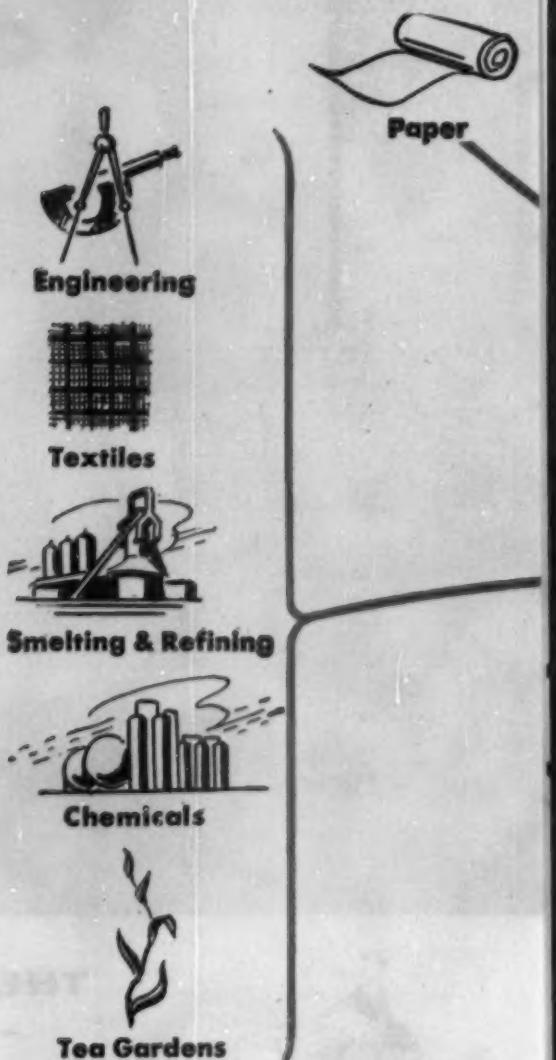
Today, Birla is in everything, from tea and sugar through autos, metals, and chemicals to shipping, banking, and insurance (illustration).

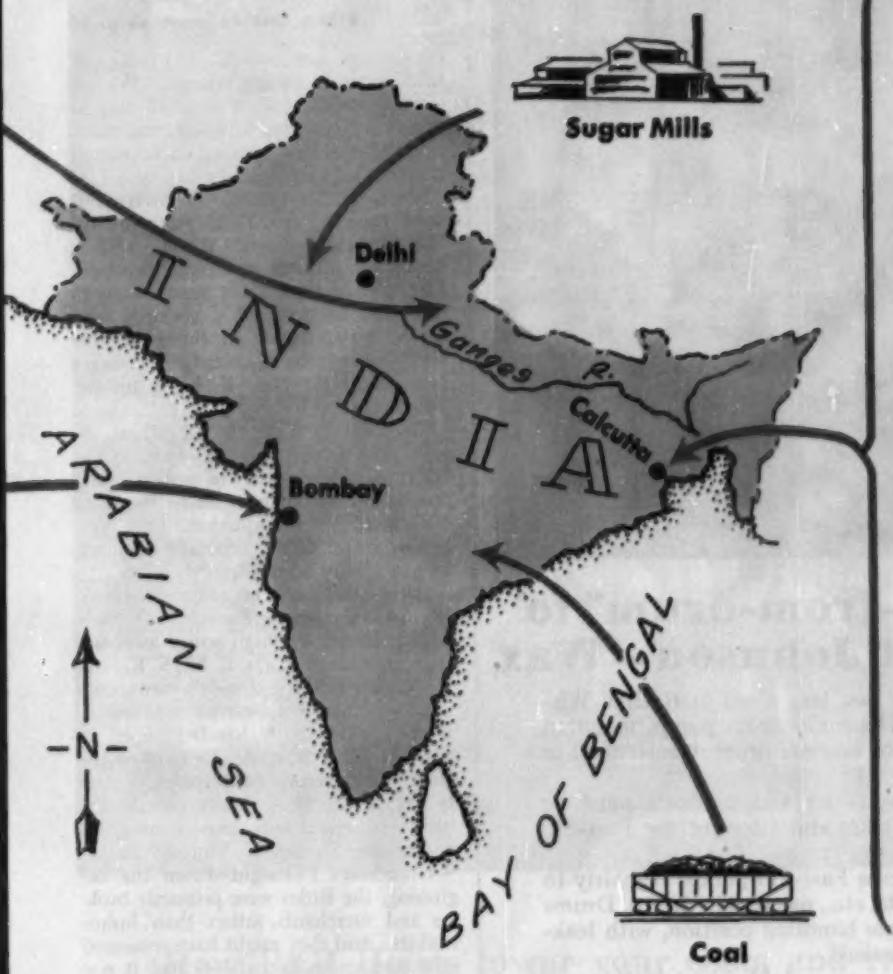
The Birla combine is not unique for its size in Indian business—the Tata group is even larger. But it is unique in its relations with the ruling Congress

Backing Business Faith Against

This week, the Indian parliament is mulling over a long-simmering plan to abolish the country's managing agencies—a type of holding company that developed there under the British raj and is peculiar to India. The heat is on them because of their ties to colonial times. Also some Indian economists are saying that managing agencies are not the kind of device that can be used in India's independent and growing economy.

Back in the 18th Century, the first managing agencies were set up by absentee Britons who were stockholders in Indian-based enterprises. Their function was to use their own discretion in reinvesting rich royalties pouring in





Banking



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Autos



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Nehru's Socialism

party and in its attitude toward the Nehru government.

• **Faith vs. Socialism**—The Birlas were the chief financial backers of Mahatma Gandhi's All-India Congress Party and its fight for independence. Birla loyally supports Gandhi's successor, Prime Minister Jawaharlal Nehru, even though he is dedicated to making India a socialist state. Ghanshyam Das Birla (known as "G. D."), chief adviser to the family's businesses and the only man who could be called boss of the Birla empire, has no explanation for this attitude—one that's not shared by other Indian big business—except faith. Industrialization and progress, he says, will require the efforts of all Indian enter-

prise, private and government, and therefore there'll always be a place for the Birlas in the Indian scene.

There certainly has been a place for them in India since 1856, though a very small one at first. That was the year of the Indian Mutiny, an event that marked the beginning of the long struggle for independence from Britain. It was the year, too, that merchant and moneylender Shivnarayan Birla climbed on his camel, rode off across central India to seek his fortune in Bombay. Within 17 years he turned himself into one of the most successful gold bullion traders in that great port-city. Soon, his son, Baldevdas (who has now retired to meditation and good works in the

Hindus' holy city of Benares) joined him to found the business dynasty.

- **Economic Weight**—Today, the flock of sons, grandsons, and great-grandsons that form the dynasty owns more than 90 companies in 14 industries, making it a big factor in the economy.

The Birlas' biggest holdings are a bank, two insurance companies, a \$10-million auto plant, 19 textile and jute mills, three coalfields, a shipping company, and six sugar factories. They also own one of India's most influential national newspapers and are in the manufacture of confectionary, starch, calcium carbide, textile machinery, linoleum, and many other lines.

Their physical assets are estimated to be worth \$200-million. But their role as India's leading financiers is probably more important.

These are wide-ranging interests for



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"... in 1947, the House of Birla was all set to reap the rewards of political loyalty . . ."

BIRLA EMPIRE starts on p. 90

one group, but boss G. D. Birla still takes pride in telling visitors: "We are a family business." And proof that he is not just boasting idly is in the number of Birlas that turn up each year on business trips in Western capitals. Last August, for example, G. D. Birla spent some time in New York. Right on his heels, younger brother B. M., who is managing director of Birla Brothers, Ltd., arrived to conduct negotiations in several fields. G. D.'s younger son, L. N. Birla, is due in the U.S. this fall, and at the moment, a younger member of the clan, K. K., is on the West coast.

All told, there are three brothers, six sons, and three grandsons active in the business. When they're not winging around the world they can be found in Birla's three headquarters: in New Delhi, where G. D. generally operates, and in Calcutta and Bombay.

Although there's no categorized division of labor among them, G. D. Birla usually acts at the high policy level and his sons and grandson, L. N., S. K., and K. K., control the family's newspaper and its textile, jute, and tea production. R. D. Birla usually handles affairs in the Bombay area, center for most of the Birla engineering enterprises. And B. M. Birla, in Calcutta, heads the most important of their automobile enterprises, Hindustan Motors.

• Grandson's Foresight—From the beginning, the Birlas were primarily brokers and merchants rather than industrialists. And they might have remained only prosperous speculators had it not been for G. D. Birla one of the founder's grandsons.

Like many other young Indians, the events of the pre-World War I period—particularly Russia's defeat in the Russo-Japanese War—awakened in him new feelings of nationalism. He was one of the first Indian businessmen to see that Ghandi's freedom movement was destined to work a revolution in the country. And he saw that independence would bring a chance to challenge Britain's monopoly in many fields of Indian business.

The chief idea for business organization that G. D. Birla adopted to challenge the British monopolies was that of the old British managing agency. In 1919, Birla Bros., Ltd., was set up along just these lines to handle the family's rapidly expanding domain.

When independence came in 1947, and the Congress Party government



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took charge, the house of Birla was all set to reap the rewards of years of political loyalty.

But the path of Indian independence proved no easier for Indian business than it was for partitioned India. The Birlas, anticipating growth, had entered the automobile business in 1942. But by 1947 the auto industry was overcrowded—nine plants were fabricating for a total market of not more than 30,000 vehicles a year.

• **Fierce Saga**—The story of how the field, narrowed down to the present two locally-producing companies—Birla's Hindustan Motors and Premier Autos of Bombay—is the record of one of the fiercest battles in the Indian business world since independence.

The ousted operators include General Motors and Ford. In some Indian circles it's alleged that the Birlas used political influence to have the government tell auto companies they must either manufacture in India or get out.

B. M. Birla, head of the family's auto firm and president of the Federation of Indian Chambers of Commerce, denies this vehemently. He claims that even before independence the Indian government announced a policy of encouraging local manufacture of cars. Hindustan Motors began making parts in 1949, when the government gave distributors two years to start basic manufacture of cars in India or face the prospect of no allocations of hard currencies for their imports.

The Birlas argue, in effect, that the American auto companies tried to out-bluff the Indian government—and failed. And G. D. Birla disagrees with the American producer's complaint that the Indian market isn't big enough and secondary industry not sufficiently developed to permit more than the assembling of cars in India. Hindustan Motors say it is now making 65% of its parts in India and producing cars—with the help of the U.S.' Studebaker, and Britain's Morris, with whom the Birlas have tie-in agreements.

Whatever the merits of the case, Hindustan Motors looks like a long bet that will pay off for the Birlas, who have a close-tied auto market.

• **Hostile Atmosphere**—The \$10-million they raised in 1948 to expand Hindustan Motors couldn't be raised in India today. Indian businessmen and investors face a government that's suspicious of everything they do and is, in general, opposed, to the theory of capitalism. Capital is shy and restive—except for the Birlas who remain, at least to all outward appearances, unruffled by New Delhi's moves against private capital.

These moves have included: (1) the Congress government's announced intention to build a socialist economy; (2) heavy increases in corporation taxes;

(3) a constitutional amendment that puts compensation for expropriation outside the jurisdiction of the courts; (4) nationalization of a leading bank; (5) launching of an attack against the managing agencies system, the foundation of Indian capitalism.

Yet, in the face of this campaign, the Birlas remain loyal to the Congress Party, staunch admirers of Prime Minister Nehru, and optimists about the future of private enterprise in India.

• Place for Business—"Business is indispensable," says G. D. Birla. The government needs more production and more employment to raise the standard of living. Business alone can provide this employment and increase production.

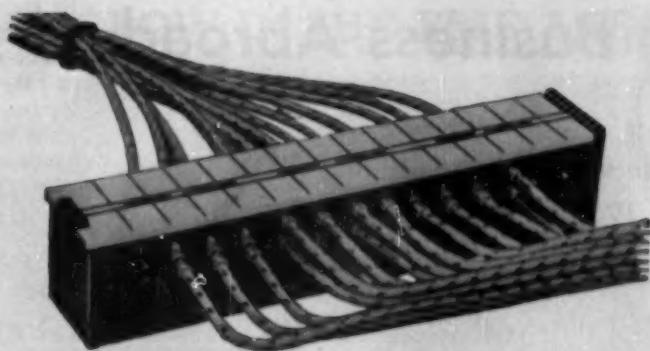
"On the other hand, Indian business interests are incapable of capitalizing major fields of industry in which India must expand. Government ownership and control in these fields is therefore inevitable."

The Birlas recognize that their calm in the face of what other Indian businessmen regard with considerable apprehension leaves them open to suspicion of government patronage. But they deny that they get or expect special treatment.

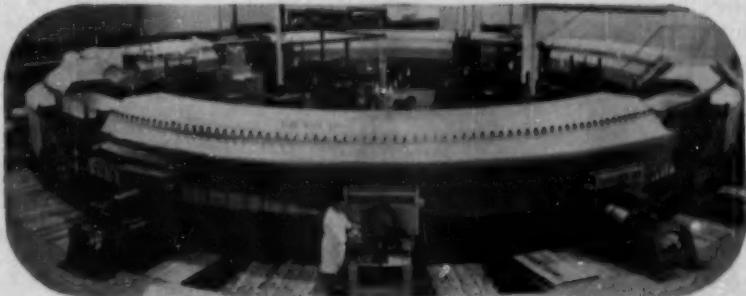
Still, it is a fact that the Birla reputation isn't what it might be with India's general public. In their conservative Hindu way, the Birlas tend to ignore this. The family does maintain a powerful lobby at the national parliament in New Delhi, but none of its companies has a public relations set up. The group is apparently content to fall back on the country's need for its financial and industrial resources.

• Corner for U.S.—While the Birlas are optimistic about the future for Indian private capital, they see little ahead for American investment in India. Only on such big projects as oil refineries (BW—May 21 '55, p156), too big for Indian capital and even for the Indian government, can U.S. private capital and New Delhi come to terms, says G. D. Birla. He does believe that foreign participation in India's second Five Year Plan, to be announced soon, is necessary, but he says it will have to be in the form of government-to-government loans and long-term credits rather than private investment.

The Birlas themselves are somewhat rueful about this situation. They say they would welcome U.S. capital. Just four months ago, B. M. Birla led the Indian Chambers of Commerce in calling on New Delhi to set up legislation to bring a new climate that would help foreign investors form joint companies with Indian businessmen. But at present even this seems to be considerably more than Nehru's government is prepared to do.



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In Business Abroad

Canada's Capital Spending Plans For 1955 Point Close to \$6-Billion

"The Canadian economy is booming like never before," says C. D. Howe, Canada's Trade Minister bases part of his optimism on Ottawa's midyear survey of capital spending plans.

Spending now looks as if it will hit \$5,950-million this year, up from an earlier estimate of \$5.8-billion.

The new figure would be a record, 8% above 1954, equal to almost 24% of gross national product. The survey indicates a 28% jump over last year's spending in mining and oil industries; 14% in manufacturing; 13% in housing; 12% by government departments.

Meanwhile, in London, plans are afoot for Britain's first regular sampling of business' spending plans. The Board of Trade will start by polling 650 companies on what they spent on new plant and equipment in 1954, which will be the base year. Thereafter regular polls will be taken, and the statistics put on a quarterly basis.

British statistics on capital spending (as well as on other basic indicators) have been none too complete; the government, businessmen, and economists have relied on company announcements, the level of machine tool orders, educated guesses.

New Zealand's 20% Tax Rebate Seeks Easier Money Sans Inflation

New Zealand is the place to be—it's cool (wintertime Down Under) and the government last week brought down a budget for fiscal 1956 that gives everybody a 20% tax rebate. Seems that the Treasury wound up with a fat surplus in 1955, but hesitates to spend it in view of an extremely tight labor market. Money is scarce, too. So giving back money won't be so inflationary as spending it, but may just reduce money rates a little. The government takes no chances on inflation: There's another, smaller surplus budgeted, and severe curbs (such as a 50% down payment on cars) on consumer credit.

Frozen Shrimp From Pakistan Pioneer New U.S. Import Field

Frozen shrimp, 5,000 lb. of them, arrived in New York this week from—all places—Pakistan. They come from the teeming waters of the Arabian Sea off Karachi, by way of Pakistan's first modern fish-freezing plant. It's a partnership of New York's International Fisheries Corp. (with a 49% interest) and Pakistan businessmen (51%). Come fall, the partners expect to ship 50,000 lb. monthly, plus turtle meat, red snappers, and frogs' legs.

By then they'll have a deal with Japanese to furnish a shrimp fleet.

The shrimp are Pakistan's first dollar-earning seafood; and they represent another step in International Fisheries worldwide fish empire. IFC is now operating in Peru, plans to set up shop in Iran and other places. The lure: handsome profits in the \$200-million-plus yearly U.S. market for imported fish.

Black Market Yearbook Dies; An Almanac Rises From Its Ashes

A new monetary publication—a kind of armchair guide to 74 currencies—appeared this week. The publisher Franz Pick, whose Black Market Yearbook has in the past been one of the few sources of facts (and estimates) on everything from the disappearance of gold bars in France to undercover dealings in Bolivianos.

The Black Market annual has been dropped, and in its place is an almanac containing: (1) a general survey of currency areas and restrictions; (2) sections covering the history, peculiarities, rules and regulations, late statistics of individual money units from the Afghani to the Yugoslav Dinar; (3) chapters on clearing currencies, payments agreements, precious metals trade; and (4) a directory of bankers, currency and gold traders, "switch" dealers, security arbitrageurs—with names of executives, street and cable addresses, correspondents, etc. All in all, a lot of meat for bankers, businessmen, traders, and economists. (1955 Pick's Currency Yearbook, Pick's World Currency Report, New York. 400 pages. \$35.)

Business Abroad Briefs

World ship construction turned sharply upward during the second quarter, says Lloyd's. Biggest gainers were Italian yards, where tonnage under construction jumped 105,118 tons, to 340,520 tons, during the quarter. German yards showed big new orders, too.

The ubiquitous Volkswagen has a new, classy running-mate. The Ghia Coupe will be put together by Wilhelm Karmann GmbH, Osnabrueck, from VW parts, starting in August at 20 cars monthly. VW's worldwide dealers will handle the new cars—to cost under \$2,000.

British Petroleum Co. and Distillers Co. Ltd. plans a \$22.4-million expansion and diversification of its petrochemical production at its Grangemouth (Scotland) headquarters. Two U.S. outfits—Stone & Webster Engineering Corp. and Kellogg International Corp.—have contracts for major pieces of expansion.

Another \$15-million batch of U.S. stocks held by the British Treasury are being sold on the London market. The hoard (estimated at anywhere between \$500-million and \$2-billion) represents securities requisitioned by the Treasury in 1940 as security against a U.S. wartime loan, repaid in 1951. The first batch was sold earlier this year (BW—Feb. 1955, p54); the new group is said to contain Continental Can, Crown Cork, First Boston Corp., Lerner Stores, National Biscuit, Sterling Drug, Swift, U.S. Playing Card.

YOUR NEW PLANT WILL GROW IN THE ERIE AREA

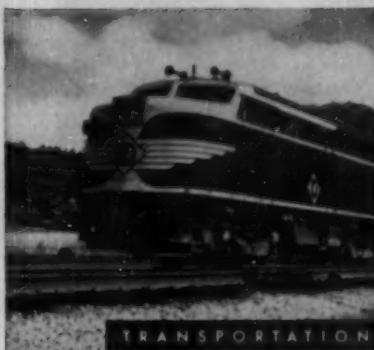


INDUSTRY

*The Electric Controller & Mfg. Co., Cleveland, Ohio,
builders of electric motor controls and lifting magnets.*



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Industrial Development, Room 520-C, Erie Railroad,
Midland Building, Cleveland 18, Ohio

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INTERNATIONAL OUTLOOK

BUSINESS WEEK
JULY 30, 1955



A BUSINESS WEEK
SERVICE

The summit meeting (page 23) has loosened the East-West log jam in Asia as well as Europe.

The U. S. and Red China will start direct talks in Geneva—at the ambassador's level—Aug. 1. And that could lead in a few months to a meeting between Secy. of State Dulles and Red China's Chou En-lai.

The August meeting in Geneva will deal with such problems as (1) the release of imprisoned Americans; and (2) Peking's insistence that Chinese students in the U. S. are not free, as Washington claims, to return to the Communist mainland.

Assuming Dulles and Chou meet, they will tackle the big problem—how to turn the de facto cease fire in Formosa Strait into a formal agreement.

For the U. S., that will raise the ticklish problem of withdrawing Nationalist forces from the offshore islands. That won't happen, though, unless Red China guarantees that it won't use force to get control of Formosa.

If this kind of deal can be made, the U. S. would soon drop its opposition to having Red China in the United Nations.

—•—

A crisis is brewing in Indo-China over the plebiscite that's supposed to be held next summer. It's to decide whether the Communist north and Vietnam should be unified.

Vietnam Premier Diem insists that Communist Ho Chi-Minh must end his terroristic activities in the south and his military incursions before Vietnam can agree to go through with the vote. Diem has the full backing of Washington on this.

But opposition is growing in Vietnam to the vote, regardless of the conditions. If Diem shifts to this position, a new Indo-China war may be in the offing.

—•—

By contrast, the outlook in Indonesia is getting brighter. The Communist-backed Nationalist government of Ali has been forced out of office after a showdown with the Indonesian army. This affair showed up the inefficiency and corruption of Ali's administration.

Now there is a good chance that the long-postponed elections will take place in September. While Ali was in office he always found a pretext for putting them off.

Fall elections would probably produce a victory for the Western-oriented Moslem party in coalition with the Socialists. The Nationalists and Communists have both been hurt politically by the tangle with the Army.

—•—

Chancellor Butler has been forced once more to rein in the booming British economy—and to put plans for sterling convertibility back on the shelf.

Until his new credit squeeze has done its job, Butler said this week, there will be no moves to free sterling further from exchange controls.

To London banking circles that spells the end of plans Butler reportedly has had to move into convertibility with a pound free to move between wider limits than it is today.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK
JULY 30, 1955

Rumors that Butler planned this for the near future were causing heavy sales of spot and forward sterling. Given the present inflationary state of the British economy, a flexible exchange rate—with upper and lower limits—would have meant a drop in the sterling rate to the lower margin.

The pressure on sterling, which cost the Bank of England plenty of gold in the past few weeks, forced Butler to act. Once he did, there were big sterling purchases, which reversed the speculative position.

Butler is using a four-way squeeze on the British economy. He has:

- Advised the commercial banks, via a letter to Governor Cobbold of the Bank of England, to really clamp down on loans—something he had previously refused to do (BW—Jul. 23'55, p127).
- Asked municipal and local authorities to postpone some new capital projects and ordered the nationalized industries to cut their capital spending.
- Stiffened installment credit by fixing the down payment at one-third instead of 15%.
- Appealed to private business to postpone capital projects that won't pay off in export sales.

This probably adds up to a turning point in the British boom.

The stock market break, which followed Butler's action, hasn't affected confidence that the British business situation is basically sound.

But almost certainly it marks the end of the two-year rise in stock prices.

The Financial Times index of top industrials shows a gain of 32% from mid-1953 to mid-1954 and of 38% during the next 12 months.

This is now recognized as a belated adjustment to postwar inflation—the index, with a 1935 base, still is only 220. But London brokers figure that the next rise will be slower, more selective.

Stiffer installment credit terms will hit many workers who have been buying consumer durables for the first time in their lives—and thus getting a tremendous incentive to overtime, and harder piecework. The curb on bank loans will cut the recent heavy spending by business and individuals.

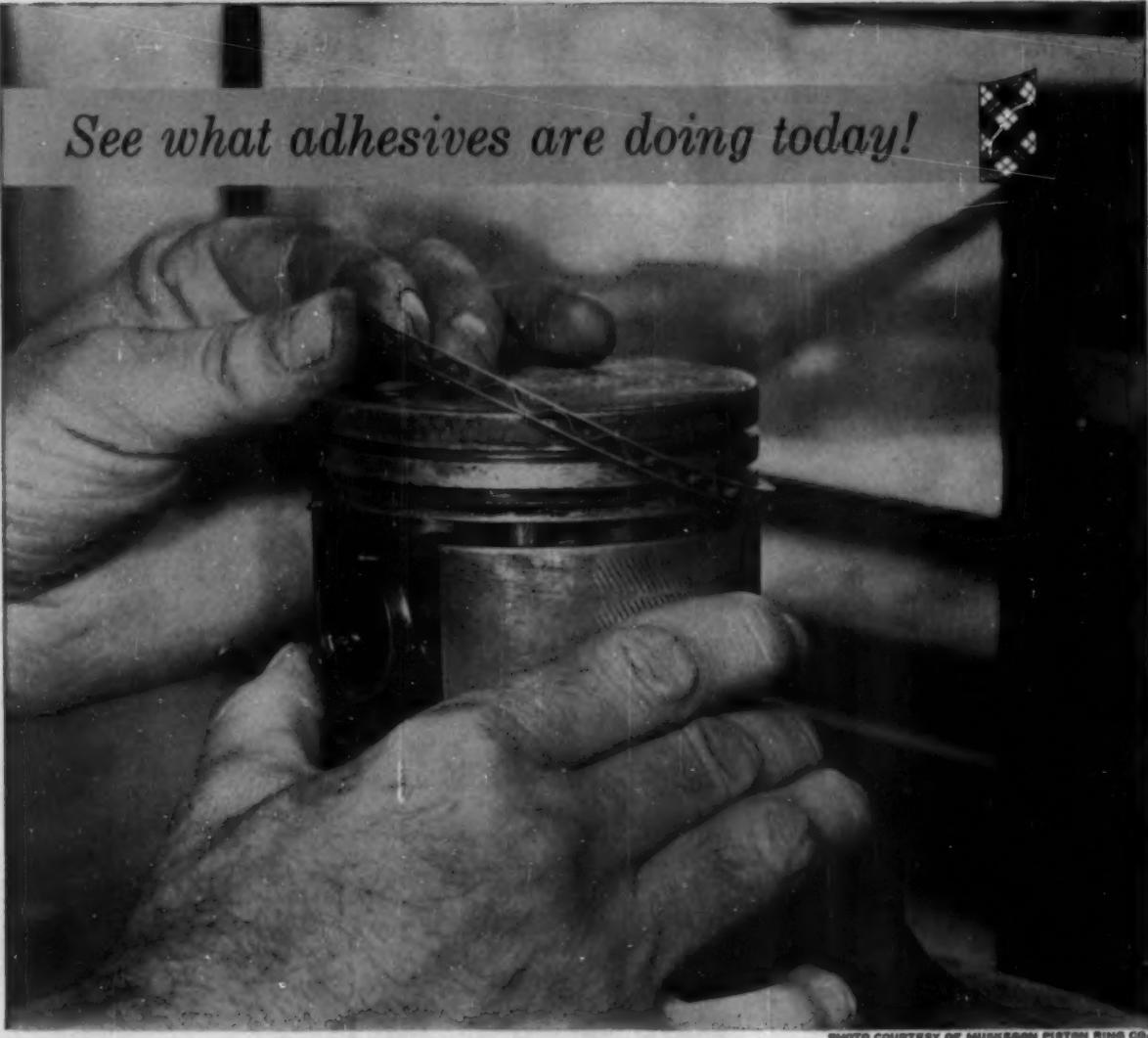
But something had to give to meet Britain's problems—a combination of record consumer spending and record capital expenditure by business.

West German exporters expect the Kremlin to offer Chancellor Adenauer a big trade deal when he goes to Moscow in September.

But they don't see enough possibilities in Soviet-German trade to provide the makings of a political deal. As they figure it, today's potential doesn't compare with the 1931 situation when the U.S.S.R. took about 90% of its machinery imports from Germany.

Soviet-West German trade has increased some in the past few years. Between 1951 and 1954 West German exports rose from barely \$26,000 to a little over \$12-million, and imports from \$40,000 to over \$20-million.

If Moscow wants a long term trade and payments agreement, these figures could go up substantially—but not enough to make any real difference politically.



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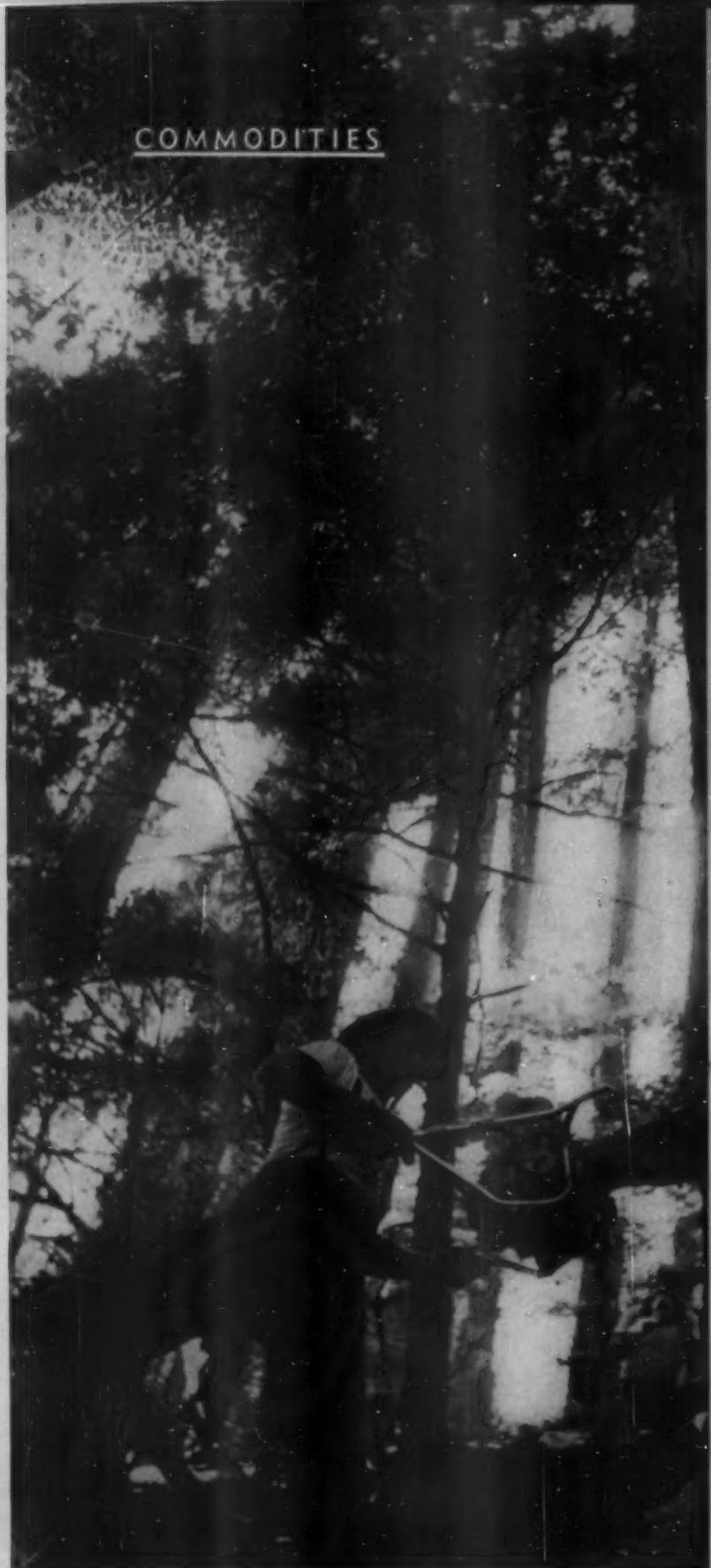
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DESTINATION UNKNOWN: These logs may wind up as lumber, plywood, newspaper—or even as cake flavoring.

FELLED—and delivered to millsite, a tree is worth as much as \$1,700. Most lumber producers figure on using every splinter.

COMMODITIES





Lumber is still a big business, but as resources dwindle and become more costly, producers are stretching to find ways to use every bit of the tree. As a result, operators are diversifying into other forest products.

Timber Industry Sprouts New Shoots

The cry of "Timber" still rings out on the forest slopes along the north Pacific Coast from California to the panhandle of Alaska, and inland to the Rockies—the same cry of bygone days when loggers depended on muscle and the cross-cut saw to drop a giant tree, and oxen and donkey engines to haul it out. But what happens now to the forest giant once it comes crashing down has as little resemblance to the old days as the gasoline chain saw has to the cross-cut, or the Caterpillar tractor to oxen.

You can sum up the change this way: Wood once meant lumber, but it no longer does. What was once the lumber and sawmill industry has become the forest products industry. Lumber is still being produced, and in substantial quantities. But producers are getting more and more of their income from other products being pulled from the logs—products ranging from pulp and paper to particle boards and vanilla flavoring.

• **New Products**—The 10 years since World War II have witnessed more expansion in forest products in the Pacific Northwest than has any like period in the last hundred years. The pattern is clear. Production of fir lumber has stayed on a plateau since 1951—current production is close to the same months of 1951. But while lumber has stood relatively still, plywood has zoomed. Between 1945 and 1950, it more than doubled; this year, it will come close to doubling again. Pulp capacity also has doubled since the war in the Pacific Northwest. New products such as hardboard, ply-veneer, and particle boards are coming in fast—as well as specialty byproducts such as cork from bark, and bark fractions for use in oil well drilling muds.

With the development of new products, there is a trend toward greater integration in the industry, as old-time operators diversify and reach out to produce new items.

I. Timber Is Scarce

The fundamental fact in the big change is that over the past 20 years timber has become scarce and costly—

but especially during the postwar decade. As the price of timber goes up and up, you get economic pressure to find new products that will use every bit of the tree—and use it to the best possible advantage. There, in a nutshell, you have the shift from lumber to plywood and to the full forest products industry.

According to recent bids at timber auctions, the average cost of a single tree "on the hoof" is around \$800 to \$1,000—though they are never sold as individual trees. Felled and toted to millsite or tidewater, the tree is worth between \$1,300 and \$1,700.

At those prices, it's just not possible any longer to cut a square piece of lumber from a round log and let it go at that; the mill owner who tried it couldn't survive. The solution is to get every last cent out of every last splinter on the land.

• **Salvage**—Better utilization begins in the woods. Some operators pre-log, taking out small poles that might be smashed or otherwise knocked out in the logging of big trees. After the main logging is over, they come back and relog, picking up the remnants of broken logs and fallen timber that can go into pulp, but weren't worth including in the main logging for plywood and lumber.

All this is a far cry from the days when timber was a liability rather than an asset. One settler who came to the area at the turn of the century recalls seeing trees up to 6 ft. in diameter—the kind that would make a plywood man today drool—being felled in a heap, as near parallel to the ground as possible, and then burned. Why? The owner there wanted to farm—and this was the cheapest way to get rid of the logs. The sad part of it is that so often the land proved to be good only for raising trees, and many a piece of farm land laboriously cleared one or two generations ago has been allowed to go back to trees, and is now part of a registered tree farm.

Forestry, these days, has come into its own. The Industrial Forestry Assn. reports that 800 professional foresters are employed in private industry in Washington and Oregon. Cutover lands are restocked; areas are sprayed by



SPRAYING kills weed trees and shrubs that prevent natural seeding of firs.

air to kill forest insects (that are far more damaging than forest fire). The genetics of trees are studied to build a superior race, especially of Douglas fir, the prime lumber and plywood tree of the Pacific Northwest.

II. Plywood

Spurring these efforts is the fact that plywood is expanding at a terrific rate. A year ago there were 91 plants, currently there are 98, with more in construction. Capacity now is 16% ahead of this time last year.

No other segment of the forest products industry plays as big a role as plywood in driving up the price of timber. These mills require the better grades of logs—the highest grade, if they can get them—to provide the relatively knot-free surfaces for top-quality panels. And plywood mills, since they get a better return than sawmills can from these fine old-growth logs, bid top prices for them.

• Demand—The pressure for raw material is almost unbelievable. Many plywood mills have little or nothing in the way of timber of their own, no backlog of raw material. In earlier years they could buy peeler logs (the higher grades they need) on the open market. Now they can't, unless they have "trading" logs—pulp logs, say, from their own lands to trade for peeler logs off the pulp mill's lands, or saw logs for similar swapping with saw mills. Plywood companies are the ones that have been putting in top bids that send Forest Service auctions to three, four, and more times the federal-appraised value of the timber. And with the present hot plywood market, these companies can pay these prices and somehow get along.

But that puts the heat on everybody. The big challenge in plywood is to find ways to use lower-grade materials and still get a quality product. One

way to do this is to use plastic facings on a plywood core; also hardwood or fancy wood facings brought in from the East, Midwest, or overseas. Plywood people also are trying to create and push styles where the knots or other blemishes are left showing deliberately—just as knotty pine became a style that bailed pine lumbermen out of low-grade logs.

III. Profit From Waste

The start of all problems of wood utilization is the sawmill and plywood mill. Plywood recovers the highest values from the timber, so it gets the best logs available. Then lumber comes in—and to make the available wood go further you have such tricks as gluing small pieces to make large ones, and gluing lumber to make laminated beams of great strength.

• Market for Waste—The big problem is to use up the waste material of the plywood and sawmill plants. The greatest progress so far has been in chipping this mill waste and converting it into a new raw material to feed the pulp and paper industry.

Today there are something like 200 chippers in the Pacific Northwest, converting clean (bark-free) slabs, edgings, and trimmings into chips (the size of the ends of your fingers) for use in pulp mills. This is a postwar development, primarily of the last half-dozen years. Estimates vary, but roughly 30% to 40% of the wood requirements of Pacific Northwest pulp mills are being met through the use of chipped wood waste from plywood and sawmill plants.

At Everett, Wash., Weyerhaeuser Timber Co. recently completed a pulp mill that operates entirely on wood waste from Weyerhaeuser sawmills. Here's an example of waste that was once disposed of by burning it at the mill returning big values for the timber owner, and at the same time creating the basis for a wider stronger wood economy.

The example runs all through the pulp industry. Some pulp producers reach out great distances for chips. Longview Fibre Co., at Longview (Wash.) draws its chips more than 100 miles from Oregon and close to 150 from Yakima (Wash.). Montana Hardboard Co. ships its chipped waste 400 miles from Missoula (Mont.) to Potlatch Forrests' pulp mill at Lewiston (Idaho).

• Mounting Problem—To get bark-free slabs, mills first have to remove the bark. The first hydraulic barker, developed early in World War II, did the job, but hydraulic barkers cost anywhere from \$60,000 to \$600,000 and usually reach toward the higher figure. That was O.K. for the big mills, but later less expensive mechanical barkers,

which bulldozed the bark off, were developed for the smaller sawmills.

This, then, created another problem in utilization: What to do with the thousands of tons of bark that pile up. So far, most of it is burned for steam, but that is low-grade recovery.

Weyerhaeuser and Rayonier, Inc., have both developed uses for bark in oil well drilling muds, and Weyerhaeuser can produce cork from fir bark that is refined for use in cork blocks and tile in competition with Mediterranean blocks. That still doesn't use up the stuff in the quantities that it is piling up, so the emphasis is shifting toward chemical utilization of bark—learning how to break it down into its chemical constituents and then reform those chemicals into other products.

IV. Merchants of Trees

The industry's new attitude toward its timber holdings in a sense was summarized by J. D. Zellerbach, president of Crown Zellerbach Corp., when he told a Portland meeting last May, "We in Crown Zellerbach consider ourselves merchants of trees. We are interested in making our timber supply stretch as far as possible, and last forever. We are interested in utilizing the whole tree to the best possible advantage—whether it be for paper, plywood, lumber, or chemicals . . . and in selling these products to the greatest possible number of people."

• Stretching Supplies—Here are some of the things that are happening in the industry:

• Weyerhaeuser, kingpin of the business, announced last month that it would build its sixth and largest pulp mill at Cosmopolis (Wash.). The mill will produce 400 tons a day and will bring Weyerhaeuser's annual output of pulp to 800,000 tons, worth more than \$100-million at the mills. Last year Weyerhaeuser's income from sales of pulp and paperboard totaled 55% of its income from sales of lumber—and it's still rising.

• From pulp, Weyerhaeuser is integrating upwards to produce paper, and downwards to produce chlorine and caustic soda. R-W Paper Co., wholly owned subsidiary of Weyerhaeuser and Rhinelander Paper Co., is now building a \$7-million specialty paper mill at Longview (Wash.). This is Weyerhaeuser's first venture into paper making. And, also at Longview, the company is building a plant to make chlorine and caustic soda for use in its own pulp mills—the first Pacific Coast pulp manufacturer to do this.

Weyerhaeuser has also just brought into production at North Bend (Ore.) its first plant to make particle board, a 4x8 panel made from wood shavings, bonded with resins, and pressed to form

SUN HEATS IN ZONES

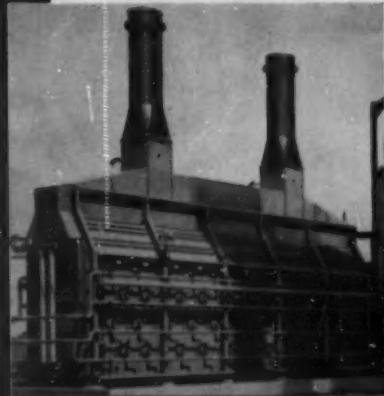
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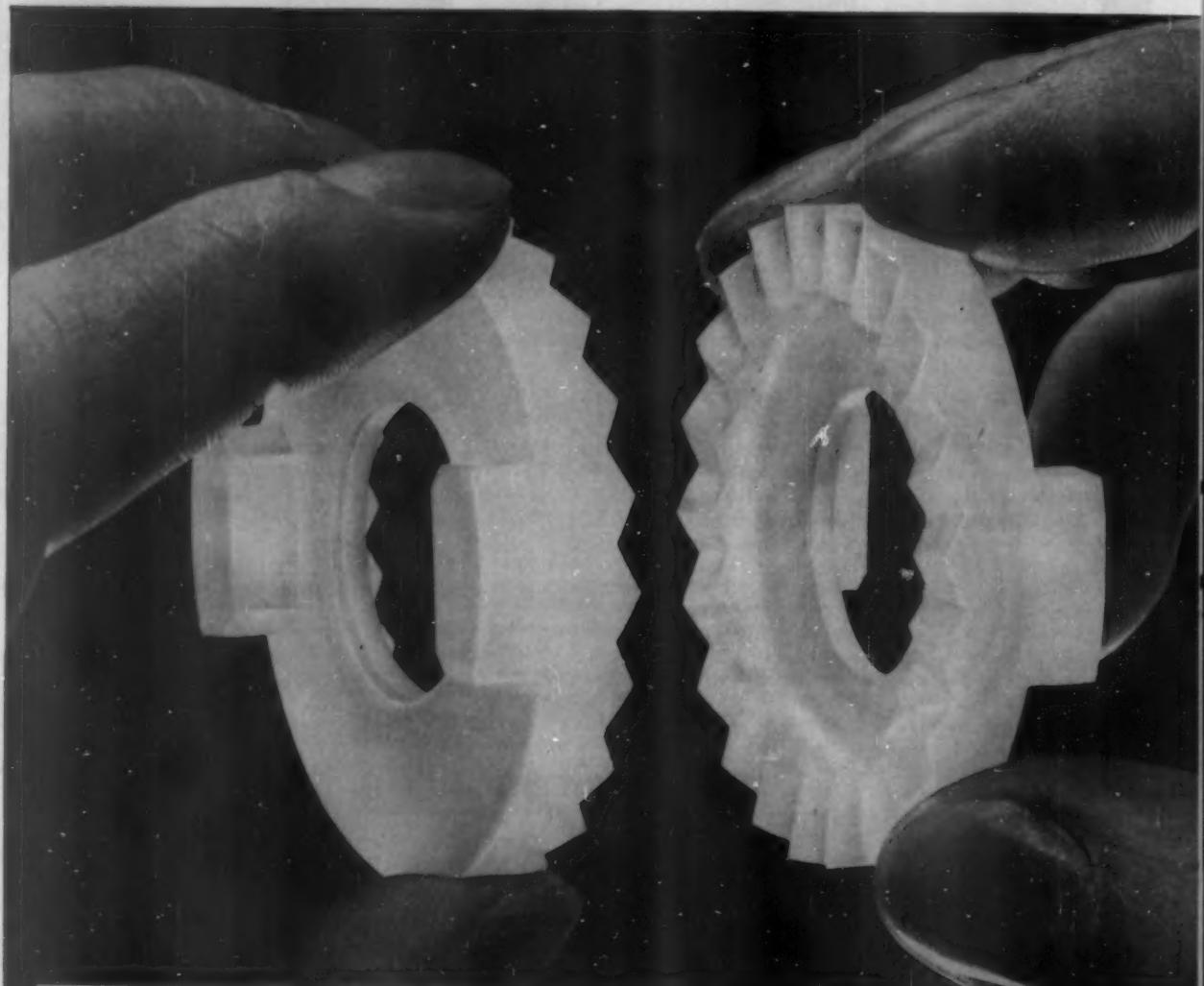


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nylon last 5 times longer per year per clutch

**32¢ facings of "Zytel"
replace *\$8.75 metal facings**

This clutch revolves at 1750 rpm, transmitting 75 ounce-inches of torque. It is engaged and disengaged up to 40 cycles a minute, 24 hours a day. Minnesota Mining & Manufacturing Company, St. Paul, Minnesota, formerly used heat-treated metal facings for this heavy-duty job, but had to replace them an average of 17 times a year. After a change to facings molded of tough, wear-resistant "Zytel" nylon resin, replacements were required only *three times a year!*

The metal clutch components cost \$8.75 apiece. Those of "Zytel" are 32¢ each. The savings realized on the first 91 facings of "Zytel" covered the costs of the die required to mold these precision parts. Minnesota Mining & Manufacturing Company estimates an annual saving of \$150.00 per clutch installation, to which can be added savings which accrue from only three machine shutdowns a year instead of seventeen.

Du Pont "Zytel" nylon is resilient and lightweight. Moving parts often require little or no lubrication. This engineering material has good dielectric properties . . . also resists corrosion and deformation from moisture. "Zytel" can operate continuously at temperatures as high as 250°F. As for its production economy — the case history above clearly demonstrates how injection molding can cut costs.

Have you investigated the unique properties of "Zytel" nylon and the other members of the Du Pont family of engineering materials — "Teflon" tetrafluoroethylene resin, "Alathon" polyethylene resin and "Lucite" acrylic resin? The applications shown here are typical product improvements — possible when design and service requirements are evaluated in terms of the properties of these versatile engineering materials. For further information on their properties and uses, clip the coupon below or write to E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Dept., Room 337-1, Du Pont Bidg., Wilmington 98, Del.



AN INJECTION-MOLDING MACHINE. Parts of "Zytel" nylon resin like the clutch facing can be mass-produced in multi-cavity dies—a fast, efficient method of fabricating, which generally requires no machining or finishing.



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a board that can be sawed, planed, and painted like lumber. The product is typical of the new trend in that it is made entirely from wood waste: "Not one extra tree will be cut in the woods to supply the plant with raw material," says the company's research director.

• Long-Bell Lumber Co., producing lumber and plywood in the Coos Bay area of Oregon, has filed for water rights there to build a pulp mill. This would be the first pulp mill for one of the largest lumber producers in the nation.

• Just as Long-Bell, a producer of lumber and plywood, is going into pulp, Crown Zellerbach Corp., hitherto a producer only of pulp and paper products, is going into plywood. Crown has announced that it will build, in the Portland area, its first veneer mill, to be followed by a complete plywood plant costing around \$2.5-million (BW-May 7 '55, p.110). Object: To get better recovery from the top-quality peeler logs taken off Crown's own stands of timber, which it is now trading to plywood mills in exchange for pulping logs.

• Pope & Talbot, Inc., one of the largest lumber producers in the Pacific Northwest, is moving into plywood. P&T is a big producer of wood chips, which it sells to pulp mills. The trade feels a pulp operation would be highly logical for the company.

• The Price—All of this takes money, and lots of it. A study just issued by the Business Executives Research Committee sponsored by Ford Foundation and the Committee for Economic Development points out that a small modern sawmill can be built for \$150,000 to \$300,000; a waste-utilizing fiberboard plant needs upwards of \$2-million.

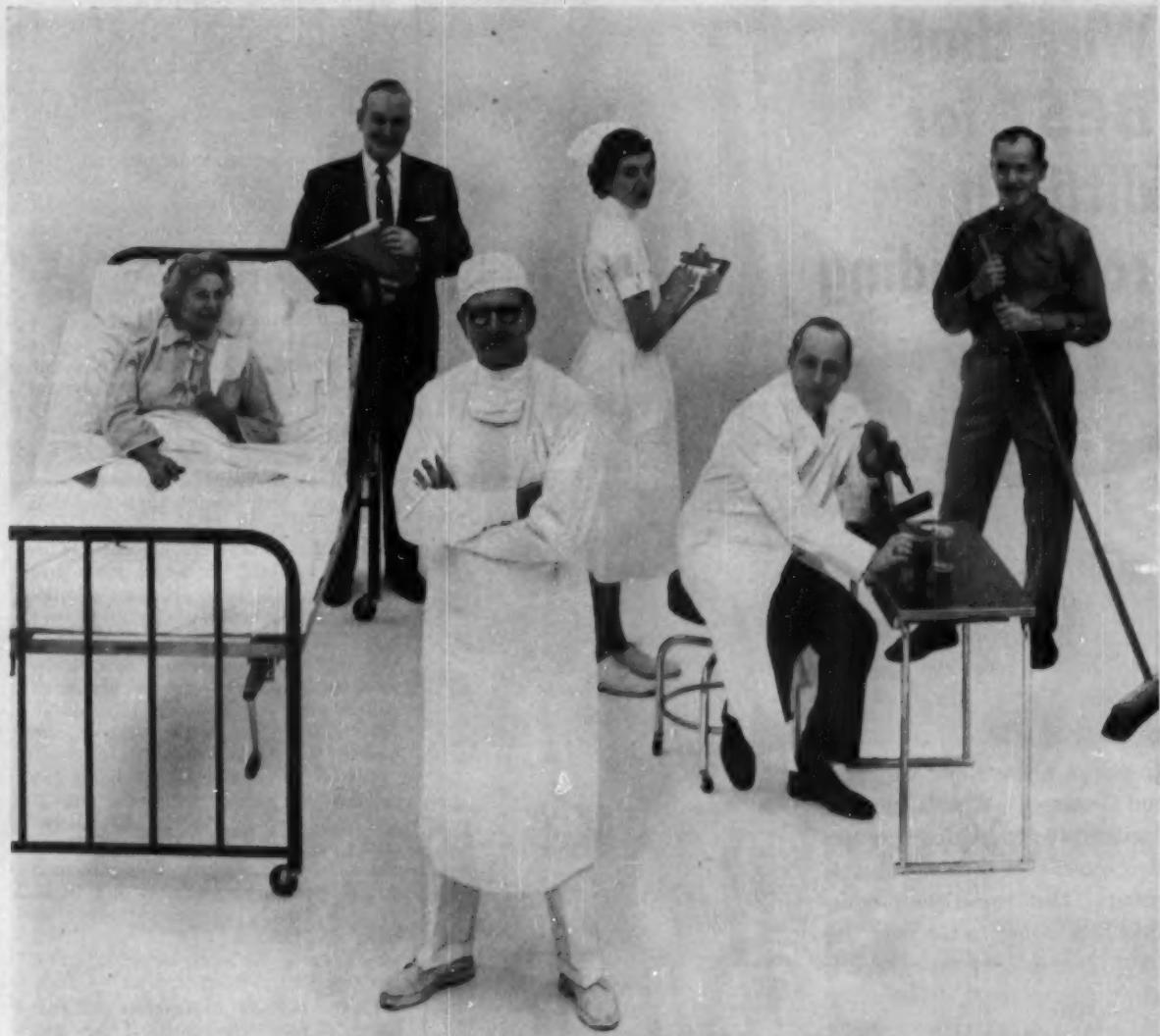
A pulp mill requires a heavy investment: \$15-million to \$20-million is a common price tag on some recent developments in the Pacific Northwest.

So, in this shift from lumber to forest products, capital investment is way up. And, by and large, it's only the bigger companies that can move into the new products; the small sawmill operator just can't afford it.

But money alone is not enough. No company can afford a new plant—nor can it borrow money—unless it owns enough timber to keep the plant going for a long time. This, again, puts terrific pressure on timber resources—to the point where it looks as though about all the timber anyone can lay hands on is in a few large blocks that only seven-figure money can buy.

V. Chemical Utilization

Even so, there is still some waste. It's a challenge. The typical smaller company that has expanded from lumber



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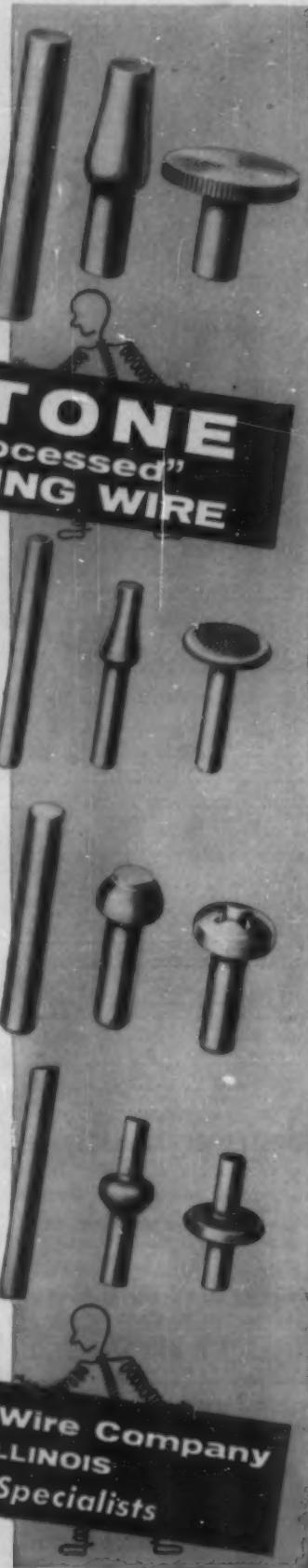
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ber, to plywood, to particle boards, to pulp so far has created nothing original. It has ridden on the coattails of others in the producing end, and has learned a lot from some highly competent suppliers of equipment to the industry.

Now it's making enough money so that it can afford some research—and move ahead on its own.

That's about where the industry stands today. Some of the older and larger companies, like Rayonier, Inc. (BW-Jul.4 '53, p126), Weyerhaeuser, and Crown, have well established research departments. But old-timers at the Forest Products Research Society convention last month remarked on the surprising number of new faces, and new companies being represented at the meeting.

• **Into Chemicals**—The researchers last month were properly cautious, but there was little doubt that they felt the big thing ahead for wood is as a source of chemical raw materials. This involves breaking the wood down into its component chemicals, then rebuilding these into new products. It isn't easy, but the challenge is exciting and the potential enormous. Researchers look to the day when wood chemicals will be as important to the forest products industry as petrochemicals are now to the oil industry.

Lignin—the material that binds the cellulose fibers together in the tree—is coming in for some special and concentrated attention. Lignin makes up about 30% of the tree; it is separated out in the pulping process and, right now, is largely wasted—probably the most conspicuous area of waste still remaining in the forest products industry.

Chemists know that lignin is a rich source of many chemicals. If they can get at these chemicals, then turn them into useful products, they can turn a material that is now waste into one of the highest valued parts of the tree.

• **Potential**—Though more companies are starting research programs of their own, the amount of research on wood chemistry is still pitifully small—if you compare it to the petroleum industry, for example. Ask a wood-chemist who has spent most of his life in this business whether the problem of lignin can be solved and he'll tell you that of course it can—how long has anyone been working on this?

Few people, even in the Pacific Northwest—other than the leaders in forest products—have ever heard of chemical utilization of forest resources or have any idea of what the potential is.

But enthusiasts feel that if it ever takes hold, this region—with its tremendous renewing resource of cellulose—will see a chemical industry that may some day be bigger than lumber.



Meals are more appetizing when served in restfully quiet surroundings. The Cushion-tone ceiling in the center's restaurant-lounge area soaks up sounds before they have a chance to build to disturbing levels. Cushion-tone is easy to maintain, too.

To quiet the rumble of bowling balls and clatter of tenpins, a ceiling of Armstrong Cushion-tone has been installed in the Kenmore Lanes Bowling Alley. Noise-absorbing Cushion-tone is an economical investment that pays off in improved customer relations.



Ceilings Spare Bowlers from Noise

Today, bowling is big business, with over 20,000,000 enthusiasts enjoying the sport in more than 12,000 de luxe bowling palaces.

Large, modern centers like Buffalo's Kenmore Lanes Bowling Alley encourage family patronage by offering complete entertainment facilities in pleasant surroundings. For added customer comfort, restaurant, lounge, and alleys in the recently completed Kenmore Lanes center are sound conditioned with noise-absorbing ceilings of Armstrong Cushion-tone.

Cushion-tone soaks up as much as 75% of the sound that strikes it, helps keep the ever-present noise from building to disturbing levels. Because Kenmore Lanes is designed on an open plan with few space dividing partitions, Cushion-tone's high acoustical efficiency is doubly valuable.

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Relaxing comfort is offered patrons by the noise-absorbing Cushion-tone ceiling. Easily installed with all types of air-conditioning and lighting fixtures, Cushion-tone helps promote the pleasant surroundings that bring customers back again and again.

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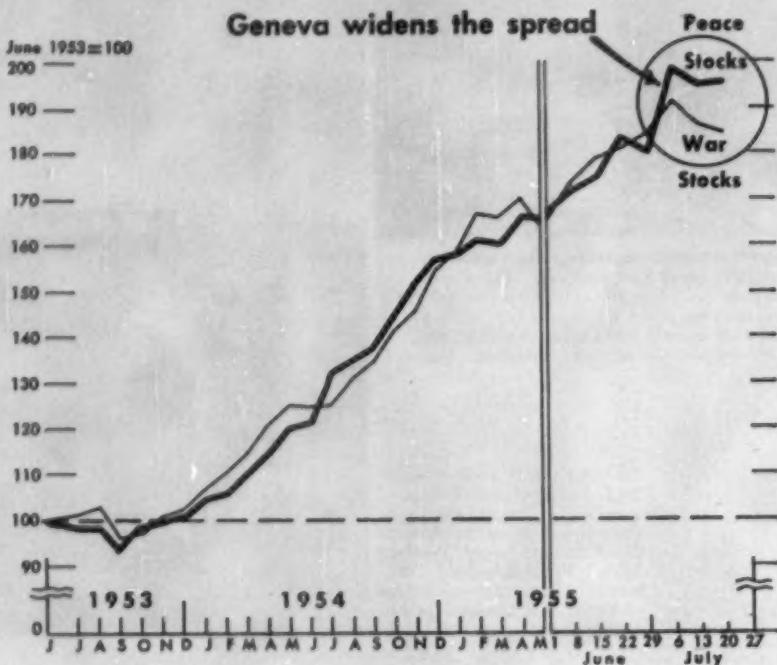
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THE MARKETS

PEACE VS. WAR STOCKS:



Data: Standard & Poor's Corp.

BUSINESS WEEK

Effects Were Inconclusive

When Gen. Omar Bradley was asked whether the Geneva talks would affect Bulova Watch Co.'s defense contracts, he replied, "Nobody who is reasonably well informed expected anything concrete to come out of the conference."

Wall Streeters like to think that they are at least "reasonably well informed," and the market's action during and after the conference would indicate that the came to the same conclusion as Bradley, although they had more doubts about the final outcome of the conference than Bradley did (chart).

The Geneva talks did much to stir Streeters into active debate on just what effect peace, total war, limited war, or cold war could be expected to have on stocks. Most agree that overall war puts the damper on most corporate earnings. "But," added one Streeter, "wars invariably are followed by price inflations, and strong stock markets." On the question of what differences there are between a cold war market and a peace market sentiment was pretty evenly divided.

- **Brief Faltering**—For instance, early last week, when the conference was under way on a note of cooperation and good will, the market faltered

slightly, and there was some sparking of interest in the so-called peace stocks, such as finance companies and confectionary producers, while some war shares—notably aircrafts—slumped. When the Russians made it clear they wouldn't buy the West's proposal for unification of Germany on the spot, the aircrafts and other war shares regained some strength.

On Monday of this week, when the conference was closed and results could be weighed, the market, measured by Standard & Poor's 50 industrials, jumped over six points to a new bull market high. The leaders were blue chip industrials, such as General Motors, Bethlehem Steel, and U.S. Steel, and the distinctions between war and peace stocks were wiped out by the general advance.

Actually, the categories of war and peace stocks certainly don't have distinct boundaries. Standard & Poor's, for instance, regard autos as peace stocks, yet General Motors, Chrysler, Ford, and the independents all have been tremendously active in both total and limited wars, and usually rank among leaders in defense contracts. But with the broad advance early in the



Capital Airlines recently added the first of 60 Vickers Viscounts to their fleet . . . powered by the Rolls-Royce

"Dart" engine, a new "turbo-prop" design. These engines assure an almost noiseless, vibrationless flight.

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How does this new "turbo-prop" engine work? Something like a military turbojet. Except that the "turbo-prop" uses most of the hot gases' energy to spin a propeller. In a jet, the gases stream out the tail to create thrust.

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problem had to be licked . . . the intense, internal heat. Gases burn at well over 1600°F. in the combustion chambers. That's hot enough to burn away some metals . . . and sap the strength of most. What metal could take it? For the combustion chamber liners? For the spinning turbine blades . . . that become white-hot under the unremitting blast of hot gases?

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week, Streeters stopped concerning themselves with such distinctions, and turned to other market factors, relieved that Geneva hadn't turned up anything that would suggest cancellation of outstanding defense contracts yet had served to lessen international tensions sufficiently so that investors might be cheered by prospects of "peaceful bullishness."

• **Earnings**—Without Geneva to divert them, Streeters have taken wholeheartedly to culling through the mass of second quarter earnings figures pouring in (page 30). Earnings so far look better than good, in most cases, but tough-minded investors aren't being stampeded by net profit figures alone. They have a keen eye on dividends, and the fact that the bull market's steep ascent has trimmed yields way back (page 66) whets their appetite for dividend hikes even further. Take the case of U.S. Steel. Big Steel's earnings were the best ever in the second quarter, but its dividend rate on its recently split stock stayed at 50¢ per share, and the stock sold off on the West Coast after the earnings announcement had been made.

So far, the market hasn't reacted too favorably to the fine earnings, having

largely figured on them for the second quarter. The smattering of increased dividends has boosted some issues, and heightened the selective nature of the summer rally. With most of the big industrial corporations already reported, Streeters are speculating that earnings won't put any more steam in the rally, and that the summer rise will peter out. With the fine second quarter earnings and Geneva out of the way, Streeters opine that there isn't much of significant nature to push the market very far either way until the effects of the fall auto model changeover are felt.

• **Rate Boost**—At midweek, in the midst of the flurry of earnings reports, the market was jolted by another strong shift to tighter money. New York banks, led by Chase Manhattan, boosted their rates from 3% to 3½% on loans to brokers and dealers against stock exchange collateral. Streeters believe this is the first step toward a hike in the rate bankers charge their prime risks.

What worries them most as money continues to get tighter is that bond yields will rise to levels nearly as attractive—indeed, more attractive in some cases—as stock yields, and prove a depressing market factor.

Treasury's Refinancing Triumph

The Treasury scored a big success with its exchange offer covering next month's \$8.5-billion of maturing 1½% certificates.

Investors turned in for exchange all but 2% of their holdings, with the Treasury estimating this week that about \$6.9-billion were exchanged for new 1-year 2% notes, the rest for 11-month 2% tax anticipation certificates. Thus the cash outlay of the refinancing worked out to less than \$150-million.

Other segments of the Treasury's publicly held obligations presented a different picture.

This week's offering of \$1.5-billion 91-day bills (bids for \$1.6-billion were accepted) involved the Treasury in its highest short-term borrowing costs in many a day. The bills could be sold only at a price equivalent to an average yield of 1.72%, highest since the 1.957% of Sept. 15, 1953. A year ago, costs ran between 0.646% and 0.80%, and just a month ago an offering was disposed of on a 1.40% basis.

Long-term Treasuries also continued their recent slow drift to lower price levels:

• The 40-year 3s issued earlier this year were down to a record low of 99 1/2% of par, compared with a 1955 high of 104 1/2.

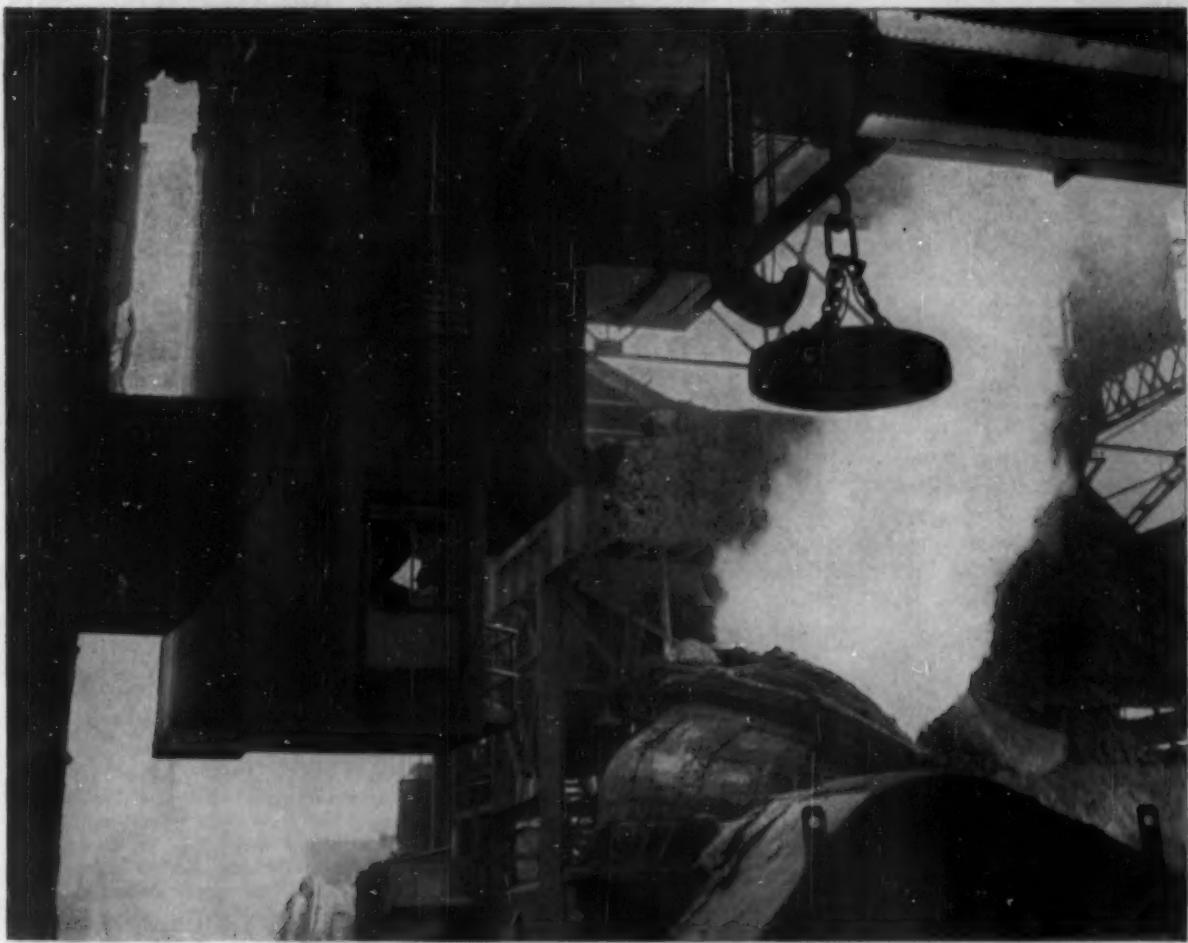
• The 3 1/2s, 1978-1983, and Victory 2 1/2s, 1961-1972, also tended to sag. De-

spite their drops, both stayed well above their respective lows of 98 21/32 and 89 28/32, set during the 1953 money squeeze. Still, both hit lows for 1954-1955. For the 3 1/2s, it was 104 1/2 against a 1954 high of 111 1/2 and a 1955 high of 109 18/32.

As for the Victory 2 1/2s, they were down to 94 1/2, compared with 100 22/32 last year, and 98 1/2 a few months ago.

Money market experts are in a tizzy trying to figure where and when the downtrend will stop. Some think the prices are already bumping bottom, others feel there are somewhat lower depths to be plumbed. But nearly all agree that for the near term no real rally is to be expected in Treasury prices. The demand for money is still too strong from all quarters for there to be much prospect that the money managers are going to relax their restraining grasp.

One Wall Street expert on government bonds, Aubrey G. Lanston, offers this advice: "In periods such as this, future economic stability demands that an effective degree of credit restraint be obtained." The force of its application, "whether it be termed 'mild' or otherwise, must be sufficient to achieve such an objective. Neither banks nor other investors can 'lick the Fed' in any tug of war of this kind. Therefore, the old adage 'if you can't lick them, join them' is a good one. . . ."



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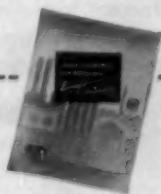


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Current predictions of several smart money market experts in the Street: An early increase in the prime loan rate of New York commercial banks (now 3%) . . . A hike in the Fed's rediscount rate by Labor Day at the latest, possibly much sooner.

Inventory indicators are being watched closely by some analysts. Stocks of goods have started growing in storerooms of makers, distributors, and retailers. They still seem far from the danger point; but in the past inventories have shown a habit of becoming excessive all of a sudden. And, analysts feel, that could well happen again. Behind their worries: growing beliefs that consumer credit is being overextended (page 32), that the demand for many hardgoods (such as autos, appliances) has about reached the saturation point, at least temporarily.

The municipal market is still edgy despite the more-rousing-than-expected success of last week's \$122-million offering of new Housing Authority bonds. One reason: The steady downdrift in government bond prices, corner stone of the money rate structure (page 114). Another: The not-so-hot reception met by last week's second largest offering—\$52-million Ohio construction bonds.

More and more money has been finding its way into "defensive" stocks brokers report. The electric utilities are particular targets of such buying for investors generally; American Tel. & Tel. shares have drawn the small fry.

Market letter gleanings: "Care and selectivity are more than ever imperative factors when making commitments." (Bache & Co.) . . . "Most individual investors can get, after taxes, better income from tax-exempt bonds than from most high grade stocks." (A. M. Kidder & Co.)

One recent nonconformist is Missouri Pacific preferred. Following earlier drops, on Monday it plummeted another \$8.75 to \$94, 18% below its 1955 high. Its slide is due to some sharp recalculating on the down side by several analysts who had made optimistic estimates of 1955 earnings on the new securities for which the preferred would be exchanged under the recently approved MOP reorganization plan.



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PERSONAL BUSINESS

BUSINESS WEEK
JULY 30, 1955



U. S. Savings Bonds (Series E) have a lot of tax advantages that many people aren't aware of—and that they can't find in other investments.

Most common tax break lies in the choice you have of either reporting and paying tax on the interest (the increase in the value of the bond) each year, or postponing it until you cash the bond.

Make your choice by comparing your present income with the income you expect to earn when the bonds mature. Thus: If you expect your income to drop in the future, due, for example, to partial or total retirement, it might be best to report interest when the bonds are cashed in.

But say you expect no change in income. Reporting the interest each year might be better—since reporting a large lump sum could throw you into a higher tax bracket.

Note this: Once you make the choice, it's binding for later years on all E Bonds unless you get permission from the Treasury to change.

Probably you don't realize it, but you can also save tax money according to the way you buy E Bonds for members of your family. The common way of buying E Bonds for children—with the parent listed as co-owner—has a tax disadvantage. You must pay tax on all of the interest even though (1) your child is co-owner of the bond; and (2) he ultimately gets the proceeds of the bond.

Avoid this by buying the bond in the child's name alone. Not only do you then escape the tax on the interest, but your child may have to pay no tax either.

For example: You buy bonds in the name of a minor daughter who has no income. She files a tax return and reports the interest currently. As long as the yearly interest is less than \$675, she pays no tax.

What if your daughter does have other income? It still might be best for her to report the interest on her bonds currently. Even if her reported interest plus other income is \$675 or more, the tax due may be at the lowest possible rate, especially compared with what you pay.

If your daughter is over 19, not a student, and you want to keep her as an exemption then don't have her report the interest if it lifts her income over \$600. But regardless of the size of your daughter's income, you can still claim her as an exemption—if she is under 19, or is a full-time student and you support her.

Do this: Weigh your loss of the dependency exemption against the tax savings she gets from reporting her interest currently. Generally, you'll find that you will get a greater family tax saving through taking the exemption.

Supposing you and your wife separate or get divorced. What can you do with the E Bonds you bought jointly?

Ask the Treasury to reissue the bonds in your single names. You run into no tax problems if the bonds are split up according to your original contributions. For example: If you contributed equally to a \$100 bond in your joint names, the Treasury, on application, will issue two \$50 bonds dating from the original purchase date of the \$100 bond. And neither party incurs a tax on the reissue.

But say you individually put up all the money to buy the bond, and had it made out in your joint names. If you want it reissued in your wife's name alone, you pay a tax on the interest that has accrued to that point (unless you

PERSONAL BUSINESS (Continued)

BUSINESS WEEK
JULY 30, 1955

have been paying it each year). And your wife, of course, is liable for the tax on interest that accrues after the reissue.

Consider, too, the importance of E Bonds as part of your estate. Not only can you build up values without paying income taxes during your lifetime—your heirs can too. Then, whoever finally cashes the bonds and reports the interest gets a deduction for any estate-tax paid on that income.

How much in bonds can you buy for your family without running afoul of the gift-tax rules? Generally, as a married man, you can give away up to \$6,000 each year to each member of your family, without running into any gift-tax problem. If you want to give more, it's wise to check into your own circumstances for the gift-tax implications.

—•—

Indications are that the rest of the summer is going to continue hot in most of the country. It's a good idea to run over the basic rules that not only give comfort, but can guard health against such possibilities as heat prostration. Here is what most doctors recommend:

Drink more fluids than usual. The best is water; others are beneficial only in proportion to the amount of water they contain. When humidity is high, cold drinks are more cooling than hot ones. It's only when the air is dry that hot drinks have any cooling effect.

Loss of salt from perspiration can be dangerous. Some doctors say that the best way to replace it is through use of additional table salt on food—two or three teaspoonfuls daily.

If salt tablets are used instead, take immediately after eating or with a good supply of water. Otherwise, they might be nauseating.

(Warning: Anyone with high blood pressure, heart disease, or liver or kidney ailments should check with his doctor before taking additional salt in any form.)

If possible, spend some time each day in an air-conditioned environment. In hot weather the entire human system—especially the heart—must work at a higher-than-normal rate to keep the body cool. Air conditioning helps relieve this strain, say experts.

—•—

Plan now if you have evergreens that need transplanting. Gardening experts say that the best time is late August or early September.

—•—

Credit cards have come to the railroads. Starting Monday, the major roads will inaugurate a Rail Travel Card good from coast to coast. It will permit charging of rail and Pullman tickets, meals, and beverages.

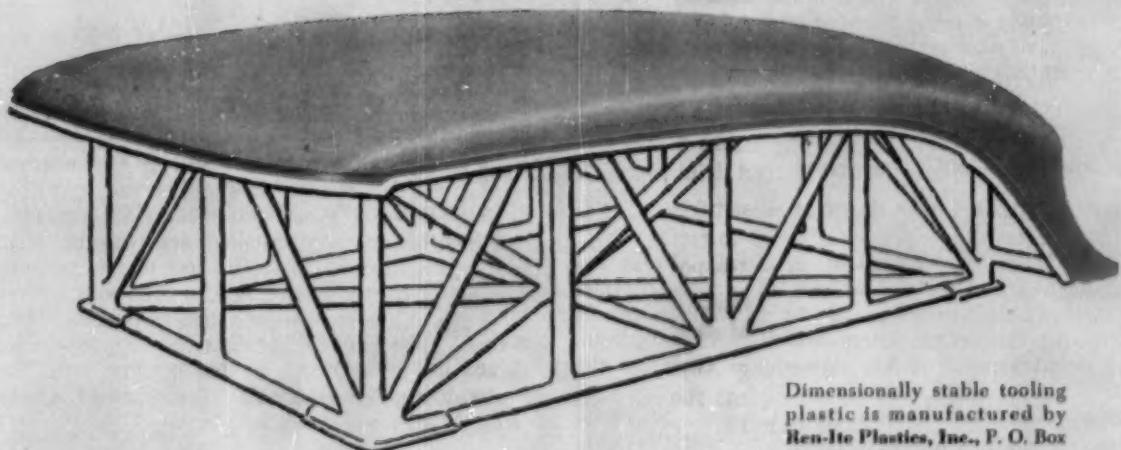
Exception to the rule: commutation tickets.

—•—

Manners and modes: White-wall tires are in tight supply, due mainly to the record-breaking demand for them as original equipment. . . . Pastel-colored soles for men's shoes will harmonize with brightly colored uppers in 1956. . . . Some restaurants are serving a new drink—"soup-on-the-rocks." It's bouillon over ice cubes, served in Old Fashioned glasses, tumblers, beer glasses. Calorie count: about 30.

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for top savings on tool costs



Dimensionally stable tooling plastic is manufactured by Ren-It Plastics, Inc., P. O. Box No. 1236, Lansing 4, Mich.

Give some thought to production tools made from compounds based on BAKELITE Brand Epoxy Resins. The savings in time and money may surprise you.

For example, such a tooling compound produced the Keller model master duplication of an auto roof panel shown here. It's used in making steel stamping dies. Savings in cost of this tool were more than 30%, in delivery time almost 70%.

Many tools, jigs, fixtures and dies you may use can benefit from the high strength of these tooling compounds...and from the dimensional stability, weight reduction, ease and economy of making quick alterations. Write Dept. JQ-14 for details about tooling with compounds based on BAKELITE Epoxy Resins.



BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation UCC 30 East 42nd Street, New York 17, N.Y.
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In Regions

Chicago Throws Its Hat Back Into the Convention Ring

CHICAGO—Still smarting from the Republicans' decision to set up their 1956 Presidential convention on the West Coast, Chicago is going ahead with plans to build a 25,000-capacity hall.

The \$17-million steel structure, measuring 600 ft. wide, 1,000 ft. long and 150 ft. high, will be the largest prefabricated building ever erected, and will contain no internal posts or pillars to take up valuable floor space. It will serve as a convention hall, amphitheater, warehouse, arena, or auditorium. The estimated cost includes air conditioning, plumbing, heating, ventilation, water, and electricity, in addition to demountable partitions for use by exhibitors during trade shows.

The venture is being financed by a group of Chicago businessmen who are currently engaged in acquiring near north side property

Boston Highway Program Pushes Three-Lane Tunnel

BOSTON—The State Dept. of Public Works has opened bids on the largest single highway contract in its history—construction of the \$15-million tunnel section of the central artery, which, partly overhead, partly underground, slashes through the center of the city.

The tunnel, which runs from Congress Street to Kneeland Street, will have three lanes for traffic in either direction, separated by a floor-to-ceiling dividing wall. The travel area will be 80 ft. wide, but "on" and "off" ramps will be wider to allow for merging traffic.

Businessmen Take on Job Of Trimming State Waste

SACRAMENTO—Men in private business often are critical of government waste—such as manpower featherbedding and boondoggling, and of extravagance in the use of materials and equipment. California, however, has taken steps that may remove the cause of criticism in the state.

Gov. Goodwin J. Knight signed a bill creating a Div. of Organization & Cost Control in the Dept. of Finance. The law is drawn in such terms that in the hands of an unsympathetic administration it could be ineffective. But Knight has blessed it with both pen and tongue, and if he follows through sponsors of the law estimate that it will save \$25-million of the state's \$370-million annual payroll cost.

Chairman of the businessman committee that inspired

the measure was L. L. Purkey, head of the organization department of Standard Oil of California. Purkey has been carving fat off Standard Oil's operations for 20 years or more (BW-Dec. 8 '51, p52).

The new division is empowered to help state departments and agencies in their organization planning, in the development and application of controls over manpower and costs, and in the classifying of jobs. The law says nothing about weeding out surplus jobs or jobholders; but as the streamlining proceeds, employees can be transferred to a surplus list as in private industry. They don't lose their attachment to the payroll, but when they quit or retire, their jobs aren't filled.

The law was an accidental outgrowth of an appeal to Purkey from Sen. John F. McCarthy's Committee on Public Works for help in tightening up the State Dept. of Public Works.

Small Community Bids For First Atomic Power

SYRACUSE, N. Y.—The village of Ilion in upstate New York may lead the nation in the race for atomically generated electricity.

As a preference customer under the Atomic Energy Act of 1954, the Ilion Board of Light Commissioners is dickering with the Atomic Energy Commission for surplus electric energy produced at an experimental nuclear reactor at West Milton, near Schenectady.

The generator was installed and will be operated by General Electric Co., at no cost to the government. The power created is flowing into the Niagara Mohawk Power Corp.'s public utility system (BW-Jul. 23 '55, p34).

Ilion's chances of getting the surplus hinge on whether or not it can work out an arrangement with Niagara Mohawk, which owns the transmission facilities between West Milton and Ilion.

Texas Raises A Weather Eye

HOUSTON—Texans who don't like to be surprised by the weatherman can find out what's in store for them by just glancing up at the new Sky-High Weather Eye on top of the Texas National Bank-Continental Oil Co. Building.

The Weather Eye reports the local U. S. Weather Bureau forecasts in code—red for warmer; white means cooler; green no change in temperature; and blinking in any of the three colors, rain. From its location atop the 21-story skyscraper, the Weather Eye is visible 25 miles away—under favorable weather conditions.

The eye was manufactured by the Federal Sign Co. of Chicago and Dallas at a cost of \$150,000. It is 15 ft. in diameter with a surface area of 708 sq. ft., and weighs 11,000 lb. It is made of ½-in. thick white translucent plastic and lined with fluorescent tubing. Combinations of neon and helium and other inert gases produce the various weather colors with the equivalent of 44-million candlepower.



This switchboard addition was "planned" years ago!

And it didn't take a lot of special blueprints and engineering, either—just the foresight to specify **BullDog Switchboards**.

BullDog Unit-Versal Vacu-Break Switchboards® are custom designed to fit power requirements *today*—allow for expansion of power distribution *tomorrow*. You simply add *what you need, when you need it!* Additional switch units, breakers and switchboard sections can be added quickly, easily . . . *inexpensively*. All components are precision built for dependability, standardized for easy assembly and interchangeability.

Whether you're building a new plant or modernizing an older one, insist on BullDog electrical distribution equipment. As a matter of fact, check BullDog for ALL your electrical needs. From Safety Switches to BUStribution®, you'll find BullDog products engineered to serve your exact requirements. And they are adaptable to future demands, too—with minimum expense and "downtime." Consult your plant electrician or your BullDog field engineer. Or, write for free literature to BullDog Electric Products Company, 7610 Joseph Campau, Detroit 32, Michigan.



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A Division of I-T-E Circuit Breaker Company

Export Division: 13 East 40th Street, New York 16, New York. In Canada: BullDog Electric Products Company (Canada), Ltd., 80 Clayton Road, Toronto 15, Ontario.

PRODUCTION

Racing the Freight Car Shortage

● Railroads are piling up new orders in effort to loosen up the squeeze on shippers.

● With a jump in carloadings and a drop in available cars, it's about the tightest year since 1948.

● Right now, new cars just balance scrappings, and there's little relief in sight before next year.

An accelerating shortage of freight cars is putting the squeeze on shippers—and it's likely to get worse before it gets better.

Early in July, when the summer lull is normally starting, on the average day there were 11,000 fewer box cars available than shippers wanted at the moment. True, most shippers get cars sooner or later, sometimes with a delay of only a day or two. But that's more than twice as many as have been short at this time for the last five years—including the Korean peak of 1951, and the 1953 boom. Only a year ago there were over 12,000 box cars sitting idle on sidings.

It is still a good two months before the traditional peak shipping season—September and October—gets going. By that time, increasing demand and accumulated delays are expected to boost the shortage to 50,000 cars of all types, making this about the tightest shipping year since 1948.

One reason: With their business off sharply last year, the railroads dropped both new car orders and maintenance to almost a postwar low. The 1955 boom caught them with their switches down.

• **Traffic Up, Cars Down**—Carloadings are up substantially over last year. They ran ahead some 9% for the first half, and the National Assn. of Shippers Advisory Boards estimates the third quarter will be up about 10.4% over 1954.

That's not a record, though. So far this year, carloadings have been roughly 2½% below 1953. Projected third-quarter figures will be about even with 1953.

But for moving approximately the same volume of materials as in 1953, there are now some 50,000 fewer cars available. The missing cars include 14,000 box cars—probably enough to cover the current tight situation in that category. Net car loss since the first of the year: 15,000.

• **Regional Troubles**—Shortest area right now: the Northwest for movement of lumber, in peak demand for a record building season. Grain shipments are cutting further into the supply of cars

for that area, as stored wheat is moved to make room for this year's crop—from the Midwest to Texas, and from Northwest areas to Puget Sound.

Truck strikes in both the Midwest and New England make things worse there. The New York Central, for instance, has a "sizable" number of cars bottled up in New England, which it can't unload because there are no trucks to take the material away.

Coal mines in some West Virginia and Kentucky areas are having trouble getting cars, and expect more trouble as the big coal season approaches.

Other sections where the vise will be turning: the Great Lakes region, with expected shipments up 21% over last year, the Allegheny area, up 17%; the West Coast, up 14%. Least trouble is anticipated in the Texas-Missouri-Kansas area.

• **Tight**—But over-all, most railmen agree the situation will be tight, at best, for the rest of the year. The worst blocks will be in box cars, and in hoppers, used mainly for coal and ores. But the carriers insist there won't be too many shipper delays. Road officials shy away from the word "shortage" and stoutly maintain that "we'll still be able to move everything that needs moving."

Railmen offer other reasons for the current squeeze besides the 15-month slowdown in new car buying and maintenance. Since roads weren't nagging for returns, receivers took their time unloading—and still do, according to freight men. With the five-day week general, in spite of mounting overtime, a car that arrives at a shipper's dock on Friday afternoon doesn't move out empty until Monday afternoon. Vacation schedules are slowing unloading further.

• **New Cars**—Several measures are being taken to ease the situation—although everyone admits there'll be nothing "easy" about it this year.

At the June meeting of the Assn. of American Railroads, presidents of Class I roads pledged their lines to buy 38,000 new cars before yearend, and

to try to get 25,000 "bad-order" cars (needing repairs) back on the rails.

During the first five months of the year, 15,666 new cars had been ordered, for a total backlog of 16,886 on June 1. In June the pace was faster—13,365 orders went to contract car builders and the road's own shops.

In the first two weeks of July, three roads alone ordered 9,175 new cars (4,000 for the Pennsylvania, 3,000 for the New York Central, 2,175 for the Chicago & North Western). Other orders for 3,800 were almost set: The Norfolk & Western 1,500, the Santa Fe 1,800, and the Atlantic Coast Line 500. In addition, the New Haven will shortly order 500 new boxcars for next year delivery, the Chesapeake & Ohio has placed orders for 1,000 boxcars and 1,000 coal cars, and the Santa Fe for 2,050 of various types.

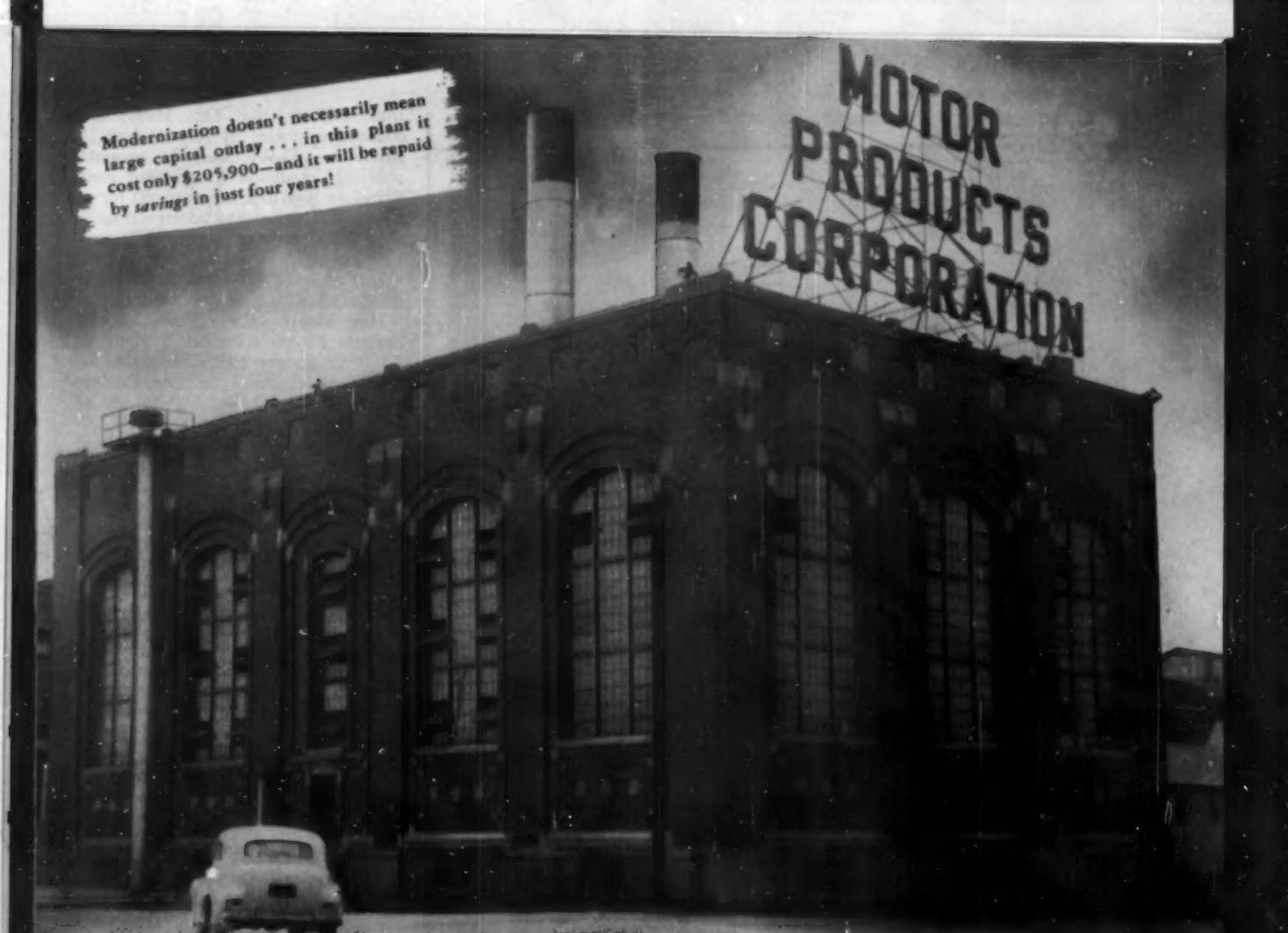
• **Little Help**—But it's doubtful if all this will help much this year. A big contract car builder says June orders should be on the rails by the end of September, but orders coming in now can't go out before November at best. He adds: "We're fighting for steel now, and if there's much trouble getting it, actual deliveries may be as late as next February."

It's a safe assumption that not more than 30,000 new cars will be delivered over the next four months—just enough to offset scrappings, which have been running at the rate of 7,500 a month.

• **Repairs**—So all the roads have been putting the heat on their own shops to get "bad-order" cars back into service. The Pennsylvania is rebuilding 2,000 high-speed cars. Its repair rate of about 100 cars a day will be stepped up to 175 in August, and it can add another 50 a day when its new repair shops go into complete service early next year. New York Central's return of bad-order cars to service is now well ahead of retirements, according to Arthur Baylis, freight vice-president.

• **Cracking the Whip**—The roads are hoping for better handling to carry them over the hump. They're already hopping on receivers to get cars unloaded and back into service, and cracking down on demurrage charges for delays. The Assn. of American Railroads, which controls routings and returns of cars, is tightening up on rules that were allowed to sag during the slow 1954 period. And this week a new I. C. C. service order put teeth into the voluntary AAR rules, fixing penalties for non-compliance.

• **Congress**—Washington is showing



Modernization doesn't necessarily mean large capital outlay . . . in this plant it cost only \$205,900—and it will be repaid by savings in just four years!

Burning coal the modern way saves Motor Products \$54,000 a year

Faced with poor boiler control, air pollution difficulties, inefficient coal and ash handling and other costly defects in its outmoded power system, Motor Products Corp., Detroit, called in local consultants to make a study. The engineers recommended a modernization program, involving some new equipment along with the adaption of existing units to new systems.

This modernization is saving Motor Products time, labor, and money—better than \$54,000 per year. Now the entire operation is clean and efficient. Production of economical steam is faster, simpler, more reliable and well within the bounds of smoke and dust regulations.

Investigate Your Fuel Costs

If you're planning to modernize your plant or build a new one—or if you are just interested in cutting fuel costs—find out how coal, burned the modern way, compares to other fuels. Why not talk to a consulting engineer or

your nearest coal distributor? Their advice may save you thousands of dollars each year.

facts you should know about coal

Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar.

Automatic coal and ash handling systems can result in a virtually labor-free plant.

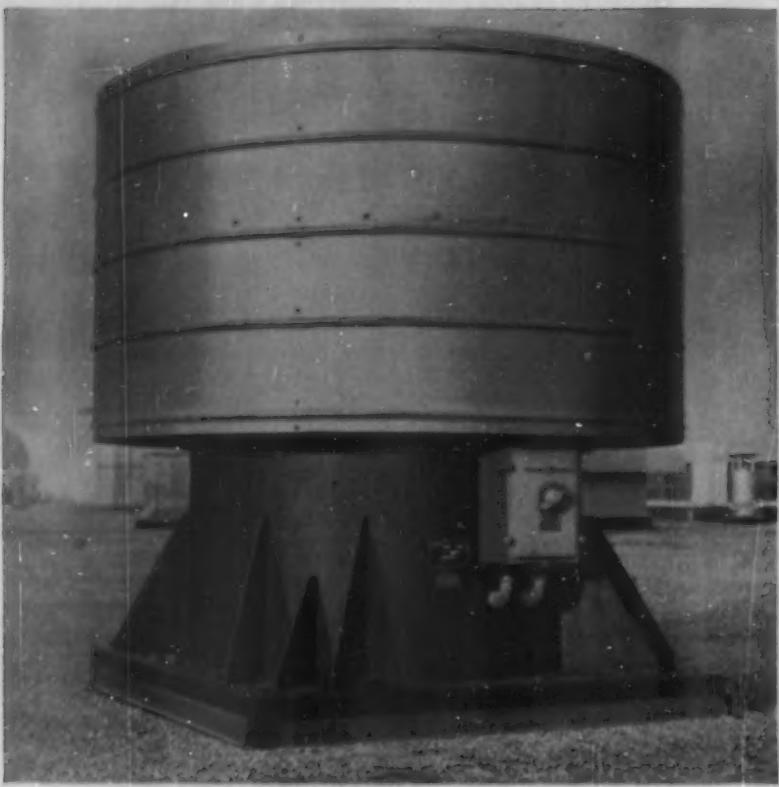
Coal is the safest fuel to store and use. No dust or smoke problems when coal is burned with modern equipment.

In most industrial areas, bituminous coal is the lowest-cost fuel available.

Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

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Southern Building, Washington 5, D.C.



One of 15 "Buffalo" 98,000 CFM Roof Ventilators installed over enamel and paint ovens at General Electric's Appliance Park, Louisville, Ky.

NOW—"BUFFALO" MAKES HIGH VOLUME ROOF VENTILATION PRACTICAL!

These new "Buffalo" Roof Ventilators remove hot air, fumes and fogs from large plant areas in *permanently satisfactory* space-saving roof installations. The first four exhausting from three enameling ovens and one paint oven in the new General Electric plant at Louisville, Ky., proved satisfactory and this customer ordered twelve more. The reasons are apparent in the "Q" Factor's construction features shown below. For more details on this efficient, high-capacity, trouble-free roof ventilation, write for BULLETIN FM-1234.

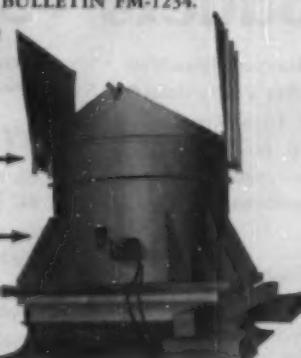
Here's lasting satisfaction in a roof ventilator!

COUNTERBALANCED DAMPERS open when fan starts, close by gravity over V-shaped trough at top of inner cylinder when fan is shut off.

5-GA. PLATE STACK contains integrally welded $\frac{1}{2}$ " gussets supporting 1130-lb. 30 h.p. motor and direct connected "Buffalo" 66 Propeller Fan. $\frac{1}{2}$ " outside gussets provide rigidity, minimize vibrations.

$\frac{1}{2}$ " FLANGED ROOF CURBING PLATE is welded to stack and provides rigid base for simplified installation.

INLET BELL—a feature which reduces noise level by 8 or 9 decibels.



*The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.



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FORCED DRAFT COOLING HEATING PRESSURE BLOWING

some concern, too. One House subcommittee headed by Rep. Robert H. Mollohan (D-W. Va.) is currently studying legislation to penalize roads that have used fast tax write-offs for replacements rather than additional facilities. This week, a Senate commerce subcommittee set out to determine the extent of the car shortage, and try to come up with a workable solution.

• How Many?—In 1952, the Office of Defense Mobilization set a figure at 1,850,000 freight cars as adequate for partial mobilization, and an absolute minimum for full mobilization. As of June 1, total cars came to 1,719,709. With present new car orders just about enough to offset retirements, the roads would have to buy or repair another 130,000 to reach ODM's goal next year.

The rails, however, are hesitant to commit themselves to anything like that. One railroader, summing up the general attitude, says the Class I roads had an average daily surplus of 90,000 cars last year, and 41,000 even in 1953. The present situation only started developing about six weeks ago, he argues, and will be over in three or four months.

Uneven Shortage

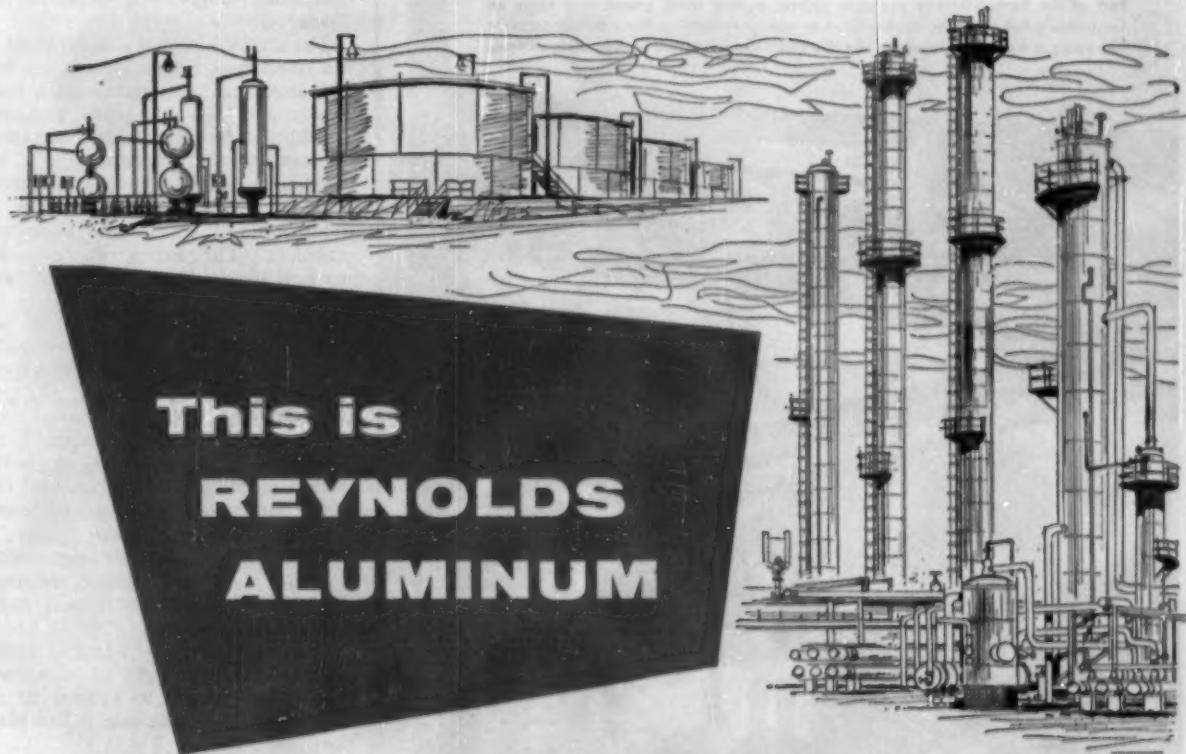
Engineer scarcity isn't hampering most industries, new survey shows. Big exception is aircraft field.

A new government survey this week threw some light on the disputed question of whether there is or is not a national shortage of engineers. The survey indicates that shortages of engineers and scientists are not hampering the research and development programs of most industries. Shortages do exist, but the bulk of them are concentrated in the aircraft industry, with the electric equipment industry also feeling the manpower pinch.

This picture of the availability of technical personnel is contained in a report released this week by the National Science Foundation. The information was gathered for the foundation by the Bureau of Labor Statistics, which surveyed 200 American companies with the largest research and development programs.

• Over-All Picture—One-half of these companies reported no numerical shortages at all; one-sixth reported minor deficits, and one-third characterized their shortage as substantial.

Only in the aircraft industry did every company surveyed report an actual shortage of technical people. In the 11 other industrial groups covered by the study, at least two-fifths of the



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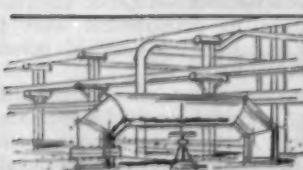
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Aluminum is versatile. In the process industries, as in many others, aluminum has many advantages in a wide range of applications. Often called the maintenance-free metal, aluminum resists rusting and corrosive effects of moisture, acids and fumes always present in process industries. And aluminum is non-sparking for protection against explosion of volatile materials . . . its light weight simplifies and lowers cost of construction . . . its beauty is lasting and practical.

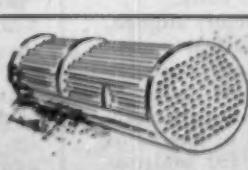
Reynolds mill products are supplied in all aluminum forms for applications in hundreds of processing plant uses. There is also available a full line of quality aluminum chemicals.

In all industry Reynolds pioneers the development of profitable aluminum uses. To learn how Reynolds can serve you and your industry, write *Reynolds Metals Company, P.O. Box 1800-GA, Louisville 1, Kentucky.*

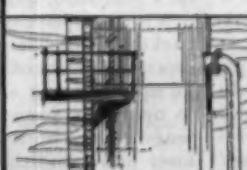
Reynolds Products for the Process Industries



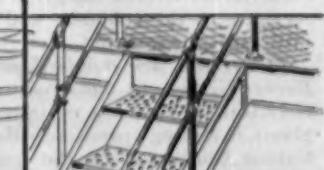
Pipe For corrosion-free handling of process liquids and gases. Minimizes maintenance expense, provides insulating effect.



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dling need. Standardization is the answer. Barber-Greene manufactures a wide range of pre-engineered, standardized conveyor components on a precision, quantity basis.

With components factory aligned, packaged and clearly marked for easy erection, Barber-Greene conveyors go up faster, cut erection costs, are in operation sooner. They are easily lengthened, shortened or altered to meet new conditions. For information without obligation, write . . .

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companies interviewed reported no shortages.

The survey is part of a larger study of the research activities of colleges, federal, state and local governments, trade associations, and non-profit institutes in addition to commercial companies.

• **Unanswered Question**—The big question raised by the current report is why all the companies within an industry don't have equal manpower problems. The survey doesn't offer any firm answer, but lists these possible reasons:

(1) The differences in kinds of personnel needed (by technical specialty, and by level of education and experience), (2) salary differences, (3) personnel turnover rate in individual companies, (4) whether a company's research program is expanding or staying level, and (5) how a prospective employee rates a company on advancement and security opportunities.

Perhaps the most striking indication that such factors might influence the supply of technical personnel comes in the machinery field.

An official of one leading company reported that shortages of manpower made it impossible to expand its research program at the rate it had planned.

Out of 250 candidates interviewed for a job recently, the company was able to hire only 3 or 4 with the required technical and professional qualifications. The president of another major machinery maker, said that his company had no manpower shortages. He attributed this to the company's position as a well-paying, established organization with a good job recruiting system.

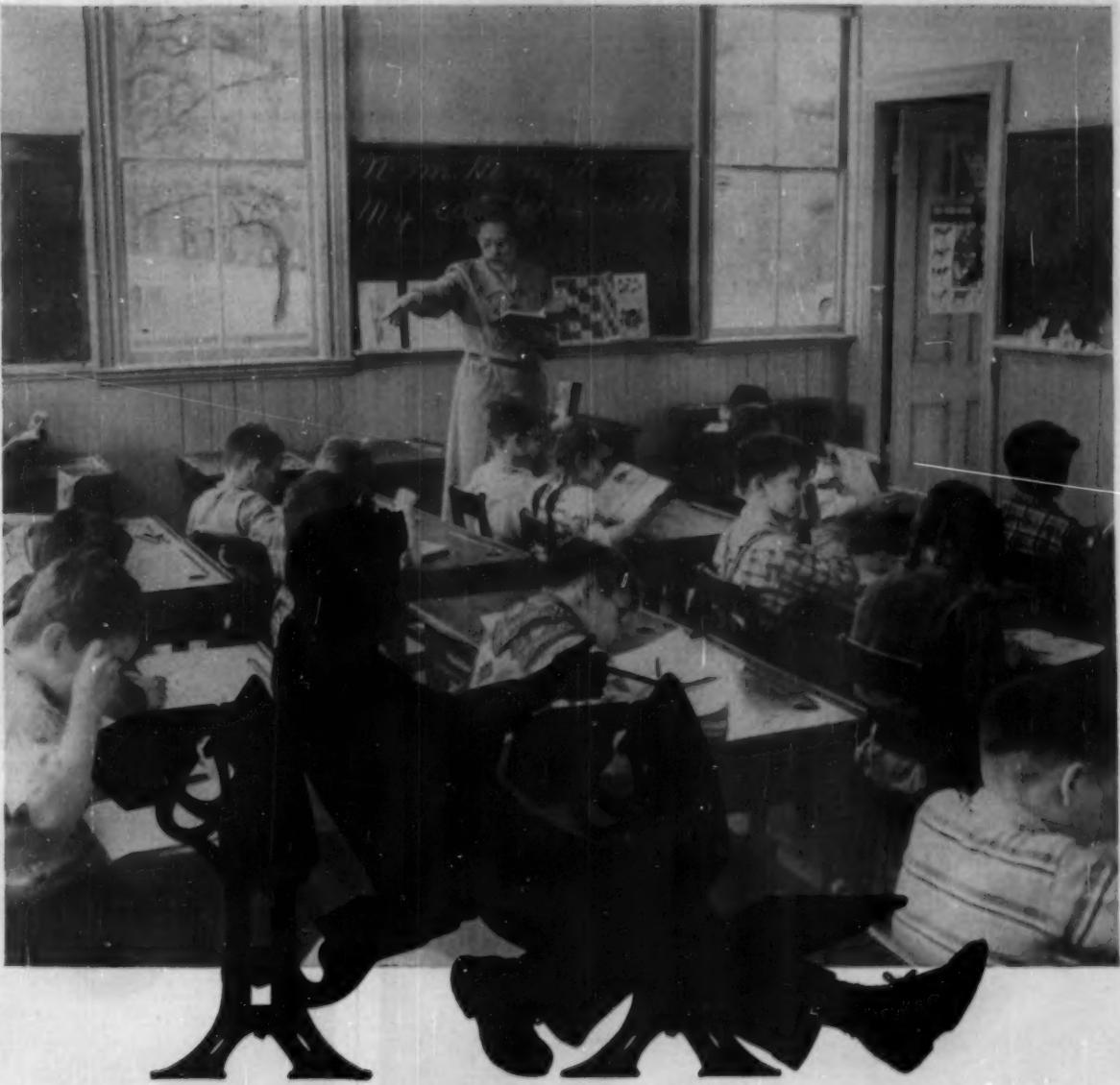
• **The Breakdown**—The science foundation report breaks down the 12 industrial groups into four categories according to the extent of shortage of technical personnel they indicated.

Aircraft makers had the most pressing problem. All nine companies checked reported some deficits, five had acute shortages. The comment of one engineering V-P is considered typical: "Our organization has been literally limited in its development work by the unavailability of qualified personnel."

Industries where about three-fifths of the companies reported some shortage were electrical equipment, petroleum, paper, food, and primary metals. Electric firms that indicated they lacked engineers and scientists felt their research programs were being hampered.

Several, which concentrate on electronic items, felt their lacks extremely acute. One electrical company said it had been able to fill only half its current budgeted positions.

The petroleum, paper and food, and metal companies reporting shortage



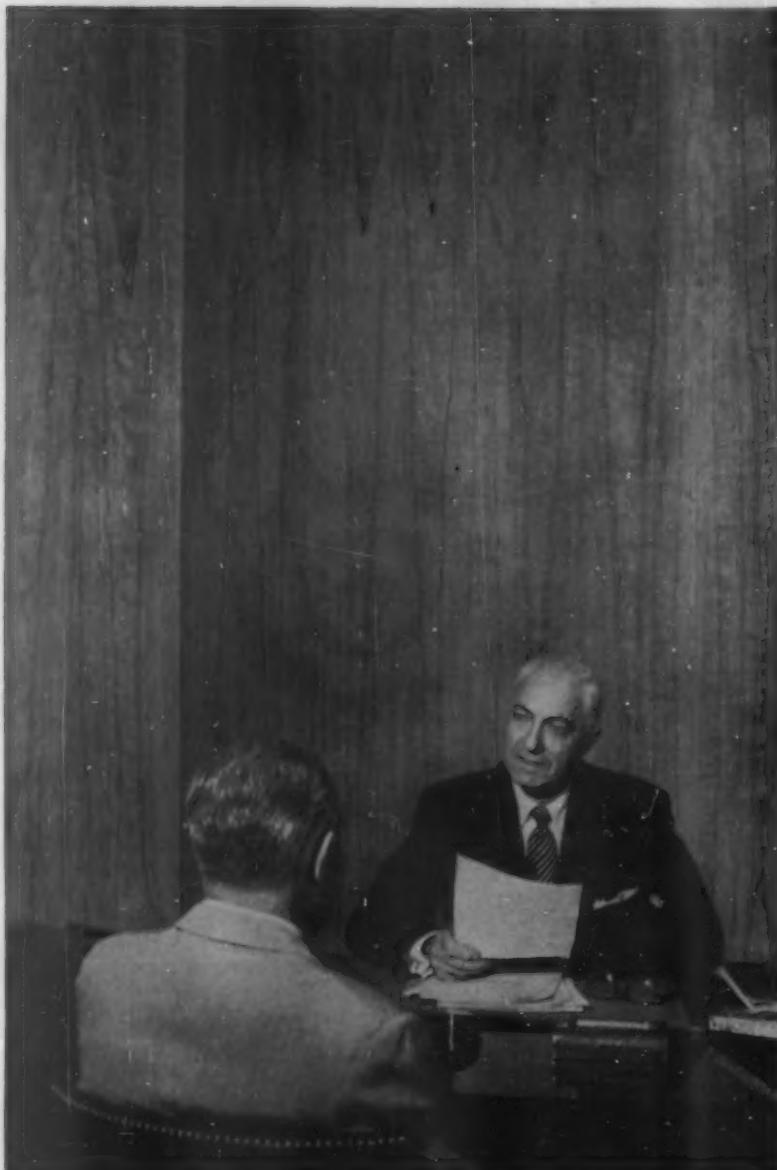
STUBBORN

STUBBORN

STUBBORN . . . This boy doesn't like his school. You really can't blame him—it's overcrowded, has double sessions, no playground. It's just plain antiquated. Perhaps his parents can afford to move to a community with modern schools. Most families, however, will have to stay. But others won't move in if the schools are poor. The neighborhood then begins to slide downhill. This affects your business, for no business is an island. Better schools make better communities, which benefit everyone. You can help lick this stubborn problem. Learn more about The Advertising Council and its Better Schools program. Write for the booklets, "The Advertising Council, 'What it is . . . What it does'" and "How Do We Pay for Our Schools?"



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were not unanimous in saying that they interfered significantly with their programs.

About half of the firms checked among scientific instrument and chemical companies reported shortages. Instrument company executives felt either that current programs were hindered or that desired expansion was curtailed by lack of manpower. However, only seven of 33 chemical corporations checked felt shortages significantly impeded their research efforts. Most of the largest chemical firms felt they were not affected by such shortages.

Less than half of the companies interviewed in the machinery, rubber, fabricated metal, and motor vehicle industries reported shortages.

The National Science Foundation's greatest concern over the supply of scientists and engineers is for the future. With corporations eager to hire men with master's and doctor's degrees, who have two to ten years of industrial experience, NSF forecasts a bigger shortage in coming years.

Present supply of new science graduates is influenced by the low birthrate during the depression years of the 1930's. But tomorrow's engineers and scientists will come from the ranks of the bumper crop of World War II babies. And, despite their larger numbers, fewer of these students are taking mathematics and science courses.



Battery for Watches

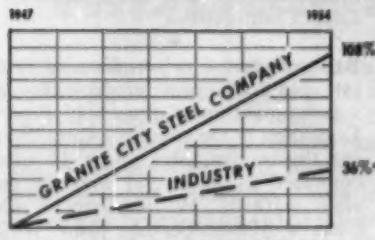
Micro-Cell, the tiny battery shown above, is a part in Elgin National Watch Co.'s development of an electrically powered watch. Indium—a soft silvery metal used as an inner element—prevents the gassing and leakage of other dry cells. Elgin says the cell has a working life of around two years.



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*Computed from AISI figures.

From 1947 to 1954, ingot capacity of the average U. S. steel mill increased 35%. During the same period, ingot capacity of Granite City Steel Company expanded 108% — from 620,000 to 1,290,000 tons a year—or three times faster than the industry average!

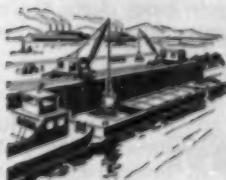
Why? Because the demand for Granite City sheet steel dictated one of the most ambitious plant modernization and expansion programs ever undertaken. An \$89 million investment went into blast furnaces, additional coke ovens, new open hearth furnaces . . . a

new blooming mill, a new roughing mill . . . sharply stepped-up hot strip mill capacity . . . a new hot rolled shear line, a new cold strip mill.

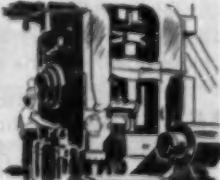
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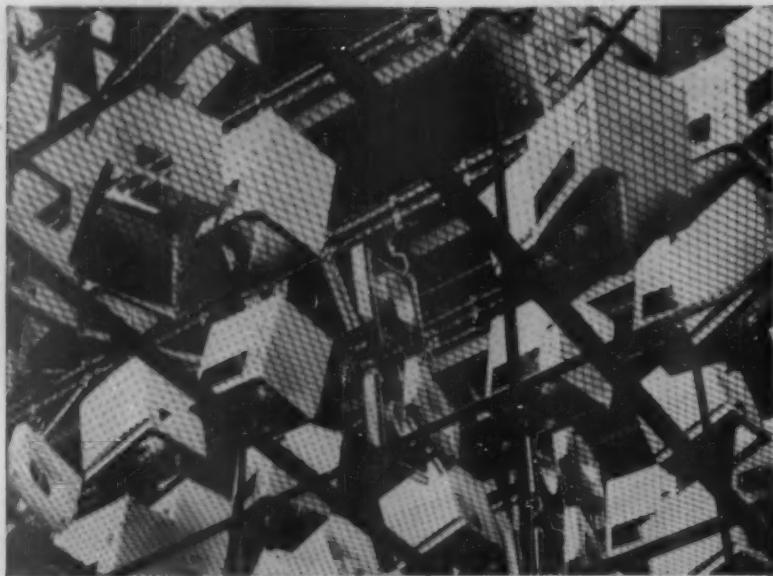
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An ammonia fertilizer plant of Phillips Pacific Chemical Co. in southeastern Washington is slated for completion late next year. It will be the first new industry to get its raw materials from Colorado-New Mexico natural gas piped into the state by Pacific Northwest Pipeline Corp. (BW-May 28 '55, p68). The plant will use 15-million cu. ft. of gas daily, and produce 200 tons of anhydrous ammonia. Phillips Pacific is jointly owned by Pacific Northwest, and Phillips Petroleum Co.

Airborne radar has another follower among the domestic carriers: Continental Air Lines, Inc., will purchase radar units from Radio Corp. of America for its Convair 340 transports. Douglas DC6-Bs, now on order, will have it installed at the factory.

Four-million gal. a day is the saving that the Rochester Products Div. of General Motors makes by reclaiming and processing water that's used to cool some of its plant machinery. Water for such things as die-casting machines, which need a cool continuous supply, formerly went down the drain.

Prefab house output at National Homes Corp., Lafayette, Ind., is still going up. It produced over 9,500 units in the first half of this year—28% more than in the same period last year. This fall, National will broaden its line, give shoppers a choice between a modern design and one that has a ranch or a Cape Cod exterior.

Bagasse, sugar cane's residue, is made into commercial paper products through a faster, continuous process of Process Evaluation & Development Corp. Pulpating the residue takes about 10 min., compared to the several hours by previous methods. W. R. Grace & Co. plans a 100-ton-per-day plant at its Paramonga (Peru) sugar plantation.

Freight trains routed by tape: At the Portsmouth Coal Yard of the Norfolk & Western Ry., an automatic teletype tape system stores switching information for complete trains, feeds the information to automatic air switching system.

Air for outer space promises to be a big headache, says F. H. Green, AiResearch Mfg. Co. engineer. Sample problem: Lack of air movement, due to absence of gravity, means that unless air is kept circulating mechanically a man might smother in a motionless cloud of carbon monoxide from his own breath.



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The McGraw-Hill Department of Economics' eighth annual survey of business' plans reveals interesting data on industry's planned capital expenditures for the next four years. The complete findings are available in a 12-page booklet titled, "Business' Plans for New Plants and Equipment 1955-58." We'll gladly mail you a copy.



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BUSINESS WEEK

Classified Advertising Division 330 W. 42nd St.—New York 36, N. Y.

NEW PRODUCTS



Many Tools, 1 Motor

The average home gardener finds it tough going to afford the variety of power tools that tempt him, especially for lawn care. If he can afford the tools he wants, he usually has to buy a separate motor to run each one of them.

To meet this problem, Toro Mfg. Corp. (BW-Apr. 15 '50, p38) has come up with a whole line of lawn-tending machinery, all of it powered by a single motor, plus guide handle. A few turns of a lock screw, without benefit of tools, and the power handle is hitched onto your mower, or leaf mulcher, or harrow, or snowplow—and eventually to a whole flock of other coming tools. The motor-plus-handle is an integral unit weighing about thirty pounds. A small carrying handle attached to the motor's top makes it easy to lift from one unit, drop onto another. To change hookups takes about 20 seconds.

Right now a lawn mower is available with the Toro power handle. Later in the season, the company will go into production with a leaf mulcher, edge trimmer, and snowplow (picture). Still later on Toro plans to add a mobile sprayer, power saws and tools, a small generating plant.

The mower now available is the standard Toro model, with built-in gearing and the platform for the power handle. Each unit has its own gearing built in to give it just the right operating speed. But the motor on the power handle always moves at the same speed. Of the attachments to come later some will be moved as well as activated by power.

In others, only the blades will be powered; Toro figures that for jobs like edging, trimming, and snowplowing,

the user wants to retain manual control of the machine's movement.

• Source: Toro Mfg. Corp., 3042 Snelling Avenue, Minneapolis 6.

NEW PRODUCTS BRIEFS

Atomic slaves hit mass market: American Machine & Foundry Co. will produce in quantity the delicate mechanical hands used to manipulate radioactive materials by remote control. Heretofore, the Master Slave Manipulators have been custom made on orders from governmental and industrial laboratories.

A runway material to aid jet takeoffs has been developed by Rubarite, Inc., a company jointly owned by Goodyear Tire & Rubber, National Lead Co., and Bird & Son, Inc. Jetlock is said to prevent spilled jet fuel from softening the runways.

Your back gets a break from a specially designed foam plastic pillow, says Drivest Co., 2600 South Walnut St., Springfield, Ill. The pillow straps to the driver's seats in an automobile; gives you a lift where you need it most on long hauls.

Faster metal quenching is possible with Voluta Oil 23, says Shell Oil Co., 50 West 50th St., New York 20, N. Y. The company claims that the oil has a high initial cooling rate, yet minimizes the dangers of warping, cracking, or distortion.

Better color for margarine is seen as result of new coloring agents made by Chas. Pfizer & Co., Inc., 11 Bartlett St., Brooklyn 6, N. Y.

Small package with a big kick is the power actuator being made by New Haven Clock & Watch Co., 140 Hamilton St., New Haven. The actuator is said to be more powerful than electrical solenoids of the same size, delivers a 55-lb. punch through a stroke of 1½ in. The actuator can be set off by an electrical impulse of 80 watts.

Notes made on master forms by a new pencil will not appear on copies turned out by Diazo-type reproducing machines. The pencil is made by American Lead Pencil Co., 30 Rockefeller Plaza, New York.

Synthetic canvas-type covering is said to outlast all comparable materials. Fellowcraft Engineering Co., Inc., 270 Jelliff Ave., Newark 8, N. J., says its Herculite will not rot, shrink, nor burn, and can be welded to give complete waterproofing.

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Geneva: A Triumph for the U.S.

Geneva produced no miracles—no simple solutions to the problems of nuclear disarmament and German unification.

The summit meeting (page 25) was a success for American diplomacy, nonetheless. It gave the U.S. a better chance than it ever had to state its position firmly and clearly not only to the Soviet Union but to the entire world. That's something that had to be done before there could be any real hope of an East-West settlement.

It was Pres. Eisenhower's job to put the U.S. case. Considering the nature of the Geneva meeting, he could hardly have done it better. He emerged as the dominant figure of the conference and, at the same time, as a champion of peace throughout the world. If there is a "new friendliness in the world," it was largely Eisenhower's doing.

From beginning to end, Eisenhower operated from a basic principle that he had formulated himself: "There is no alternative to peace." He has had a deep personal conviction on this point ever since he and a few others in Washington first grasped the meaning of the H-bomb. This conviction came through in all his major statements at Geneva and presumably in his personal conversations with Premier Bulganin and Marshal Zhukov.

But another Eisenhower quality came through at Geneva—his ability to lay things on the line if need be. This quality did not catch the headlines, but it must have struck the Soviet leaders just as forcibly as did his sincerity about peace.

Take the way he introduced his dramatic offer of mutual aerial inspection. His preface boiled down to a warning that the U.S. will have no hesitation about continuing the arms race if the Soviet Union wants it that way. "The American people," he said, "are determined to maintain and if necessary increase [their] armed strength for as long a period as is necessary to safeguard peace and to maintain our security."

Or take the thrust in his closing statement. It is too soon, he said, to tell what Geneva has accomplished. That will depend on the Soviet "follow-through."

Two Arsenals

The fact is that Eisenhower was operating at Geneva from two positions of strength—one moral and one physical.

It was the moral position that he stressed most, and rightly so. But back of this was the strength—economic, political, and military—that he and Secy. Dulles have so carefully nurtured in the Western world over the past two years.

Thus Eisenhower could, with good conscience, seek "the path that will lead to solutions" without even con-

sidering concessions that would sacrifice basic Western interests or principles. It was up to the Soviet Union, he said in so many words, to match his disarmament proposals and to meet the West halfway in settling the German problem. The West could afford to wait until that day came.

The Soviet delegation had no answer to Eisenhower's challenge on disarmament. No doubt that was because the Kremlin still is deeply divided on how to meet the basic issue of our age. On Germany, it stuck rather rigidly to old positions, though not so rigidly that the question could not be passed on for negotiation by the Foreign Ministers in October.

The "follow-through" will tell the tale on Soviet intentions. Eisenhower has made ours perfectly plain.

Silver: A Sleeping Dog

A bill to repeal the Silver Purchase Act has generated some one-sided arguments in hearings before a Senate Banking & Currency subcommittee. Present legislation requires the Treasury to buy all newly mined domestic silver at 90½ per ounce, which is about 5¢ above the world average. The U.S. purchased some 356-million ounces last year.

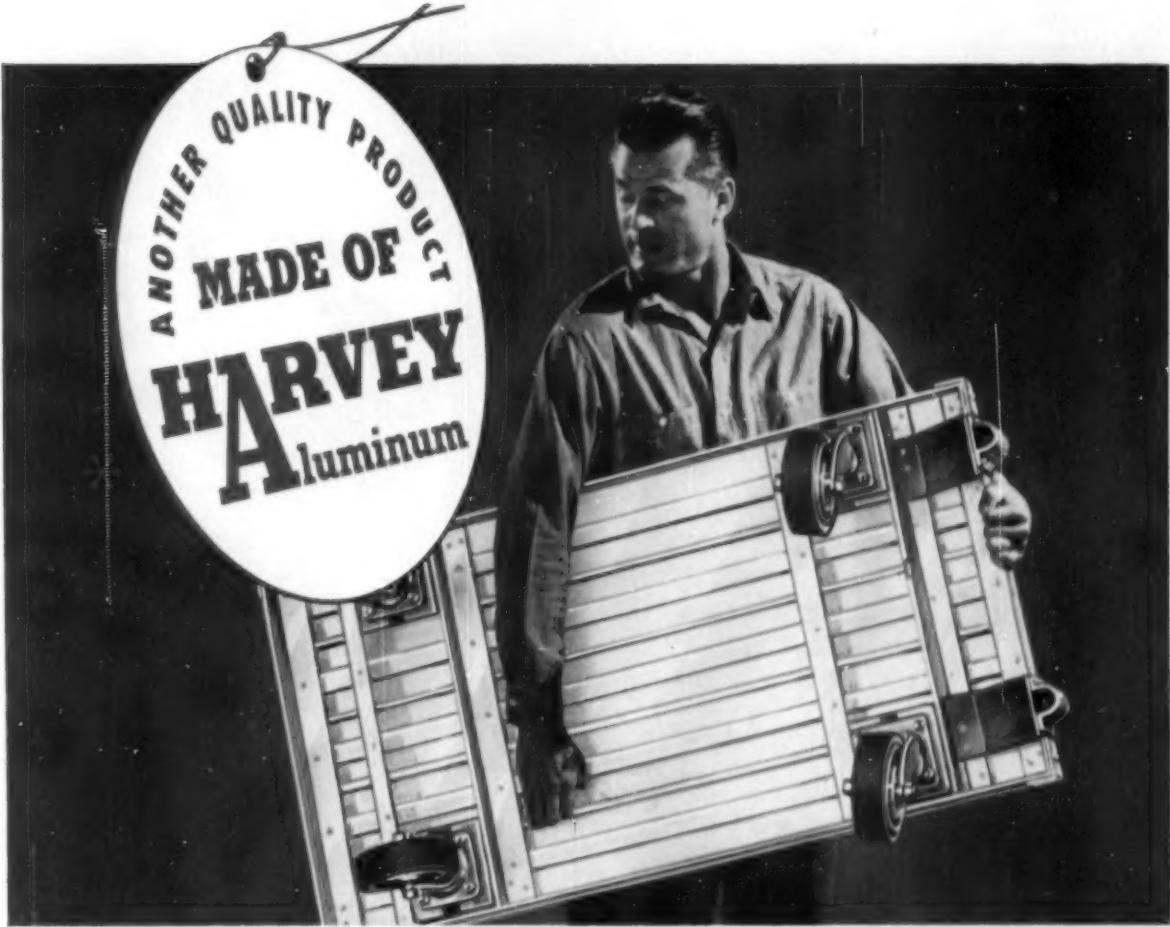
On economic grounds there is no doubt that supporters of repeal have all the arguments. Prof. Lester Chandler of Princeton, for example, could not be disputed when he described the silver purchase program as a naked handout. He called it unnecessary and uneconomic because "men work hard and use up capital goods and supplies in order to mine and refine silver that adds nothing to the soundness of our monetary system, and the silver so used is not available for other purposes."

Prof. Chandler's arguments are unanswerable on economic grounds; but silver has long ceased to be an economic question. It is a purely political question and the politics are exceedingly simple. There are, or used to be, 14 senators in the U.S. Senate at all times who can be counted up to "do something for silver."

In the past that powerful block of votes has been available for every unsound, inflationary, and hare-brained scheme that could be produced, the only price being some additional votes "for silver."

The silver purchase scheme has kept the "silver" senators quiescent for more than twenty years, a miracle that has been accomplished without costing the taxpayers a cent. The Treasury reimburses itself for the cost of the silver purchased by issuing silver certificates, an inflationary process of infinite mildness.

Let the economists and monetary philosophers leave well enough alone. Silver is a sleeping dog that should be let lie.



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RESEARCH . . . DEVELOPMENT . . . PRODUCTION . . . Harvey does all three as a leading independent producer of aluminum extrusions in all alloys and all sizes, special extrusions, press forgings, hollow sections, structural, rod and bar, forging stock, pipe, tubes, impact extrusions, aluminum screw machine products and related products. Also similar products in alloy steel and titanium on application.

Another new development using

B. F. Goodrich Chemical *raw materials*



B. F. Goodrich Chemical Company does not manufacture these doors. We supply only the Geon resin for the extrusions.

Folding door hinges on Geon

HERE'S a new type of accordion-fold door which gives you the beauty of true wood paneling with hinge action of flexible, durable extruded strips of Geon polyvinyl. These doors can be made in sizes large enough to give you that "extra" room. They have no floor track and travel quietly on overhead wheels.

The doors come in a choice of custom woods or painted standard finishes and the Geon vinyl strips match or contrast as desired. Lifetime flexibility and trouble-

free operation are Geon's contributions to a good idea.

This folding door idea may spark a new sales development or product improvement for you. Extruded and molded parts made of Geon vinyl are used in many ways—wire and cable insulation, auto and refrigerator gasketing, toys and garden hose. Many more uses are possible and practical. Geon is versatile—it can be made rigid or flexible, clear or colored. For helpful technical information about

Geon, please write Dept. J-8, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Good-chemco. In Canada: Kitchener, Ontario.



GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable.

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors